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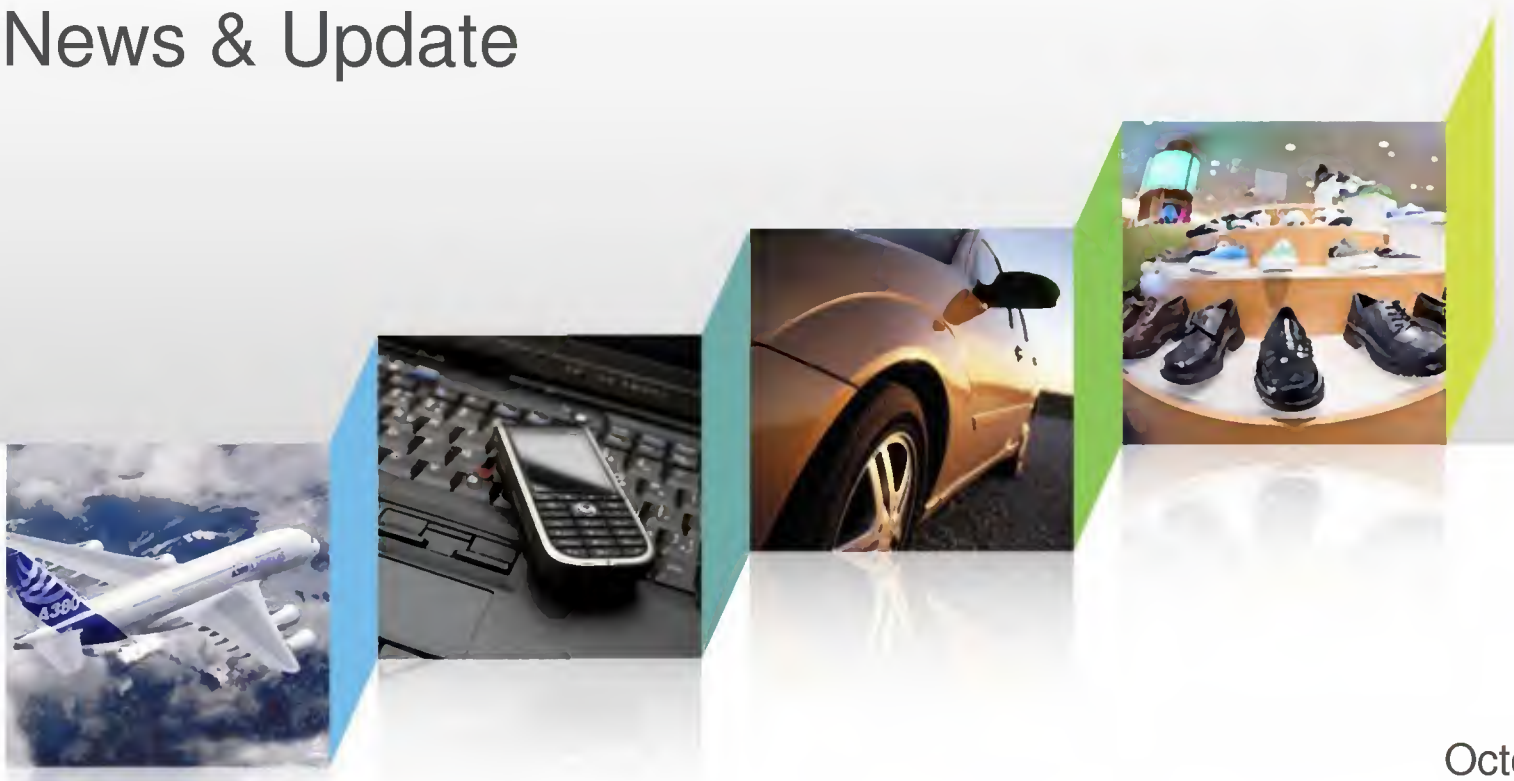
the product development company

GEKOR

Mathcad Prime
News & Update



October 2011

Agenda

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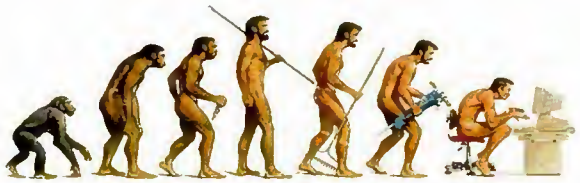
- Product Evolution
- Mathcad Prime 1.0
- Mathcad Prime 2.0
- Mathcad Roadmap
- Live Demo

Product Evolution



Product Evolution

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Trip down memory lane…

- Mathcad – the early years DOS versions,
  - Clunky
  - Functional for Mathematical process automation
  - Not really a document
- Mathcad – the middle years – Windows
  - Easier to use, tools, functions
  - Greater breadth of functions, symbolics, programming
  - More docu-centric approach
- Mathcad - today
  - Widely adopted tool…but not universal in it's reach
  - USP's – document focus, units, unique interactive symbolics…etc
  - Link with CAD,CAE or office apps
  - Can more recently be managed Windchill, others

Product Evolution

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- Mathcad at a cross roads?…
- Some questions
  - Why isn't Mathcad more of a ubiquitous tool?
  - Why do some engineers/scientists "Get" Mathcad, whilst others don't immediately ?
  - Shouldn't all schools/universities be using Mathcad?
- Inherent issues with making adoption easier
  - Mathcad perception of a complicated tool?
  - Functional gaps remain in meeting customers needs more easily and OOTB
  - Architecture meant, features were few & far between releases…problem for sales
  - The Excel problem…
- Solution - PTC undertook major rewrite
  - New architecture and development methods
  - Ease of use being one of focal points
  - Lead to quicker & wider adoption

Product Strategy

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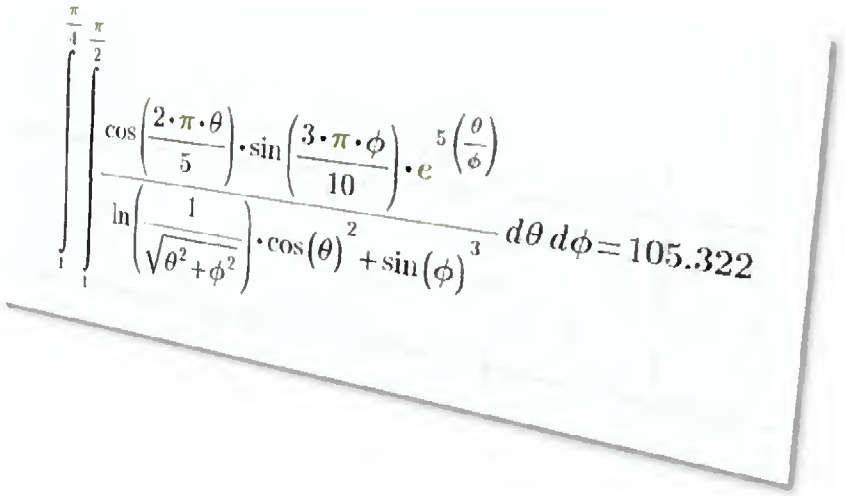
- Mathcad dual product strategy
- Mathcad 15 – will be the standard until the case for migration is clear
  - Latest release, DOE, 3'rd party integrations
  - Not a lot of new features for majority of customers…But
  - This will be the version that gets maintained until the functional migration gap has been closed.
- Mathcad Prime 1.0
  - First release of PRIME…exciting new product, game changer?...perhaps once fully functional gaps to Mathcad 15 are bridged some point in the PRIME 2.0 time scale
  - New architecture
  - Some great new features
  - Functional gaps exist for migration from Mathcad 15 – Product strategy to close the gaps

Mathcad Prime 1.0

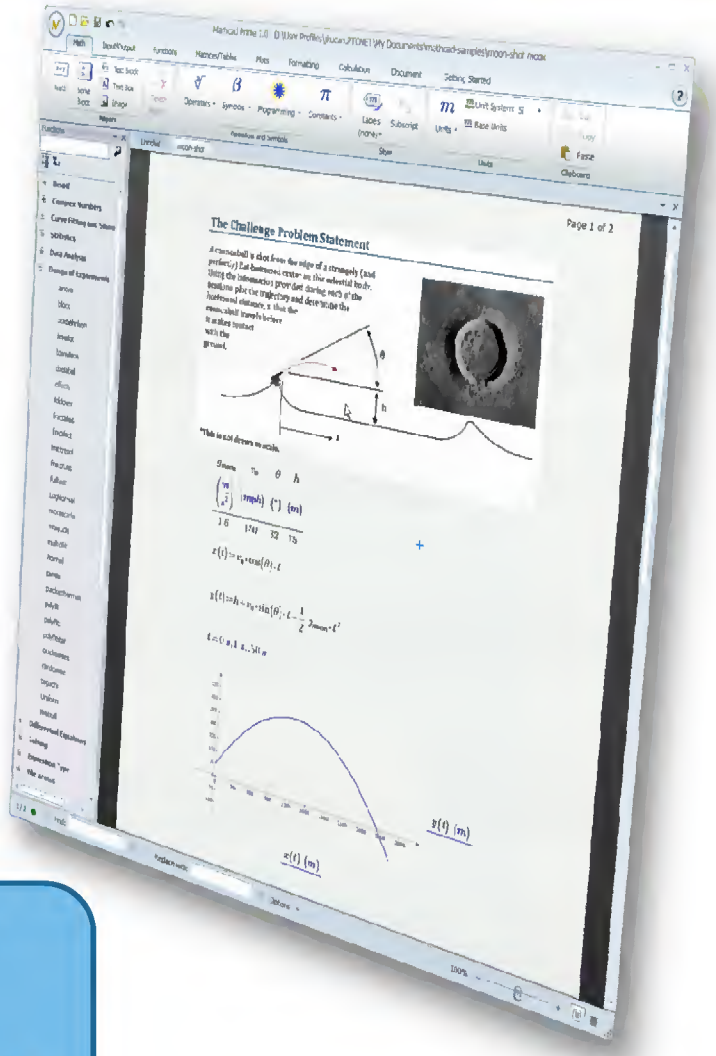


The next Generation of Mathcad

Mathcad Prime 1.0 What it is and why we did it GEKOR PTC

First release of the next generation Mathcad

- What: Redesigned, re-focused user-interface
  - New task-based look and feel
  - Improved usability and learnability
- Why: To address the challenges
  - Engineering focus – engineers were spending too much time doing non-engineering work
    - Formatting pages
    - Rewriting equations
    - Managing headers and footers
    - Positioning and formatting regions
  - 15 minute problem – want users to feel comfortable and productive within 15 minutes of using the product

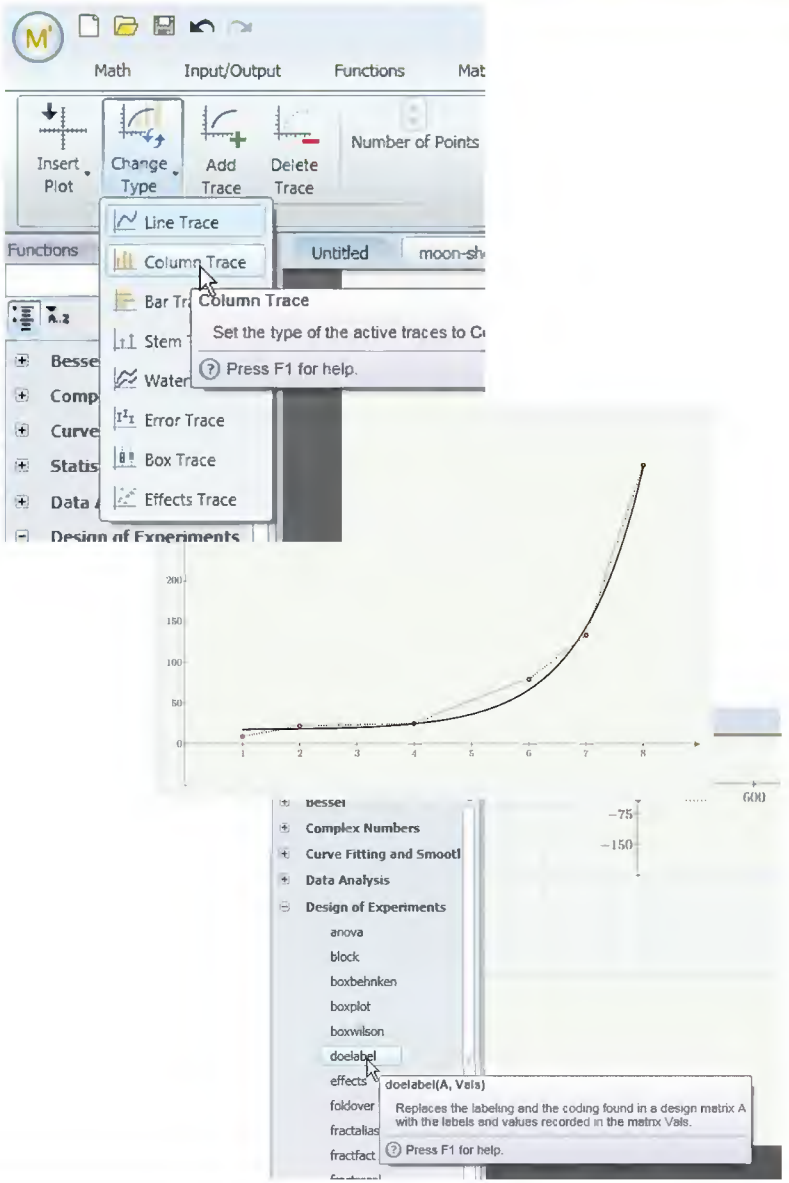


Everything about the interface is being carefully redesigned. Nothing is being reused.

There are new things in Mathcad Prime 1.0 and there are some that aren't there – yet.

First release of the next generation of Mathcad

- Focus on engineering while inherently creating a design document
- Document-centric environment
  - Create complex, professional engineering design documents quickly & easily
  - Interact with worksheet content intuitively & directly
- Usable, learnable interface
  - Explore complex engineering calculations in a familiar, user-friendly environment
- Advanced engineering math exploration
  - Display, manipulate, analyze and plot your data with full unit support throughout the application.
  - Access over 600 functions

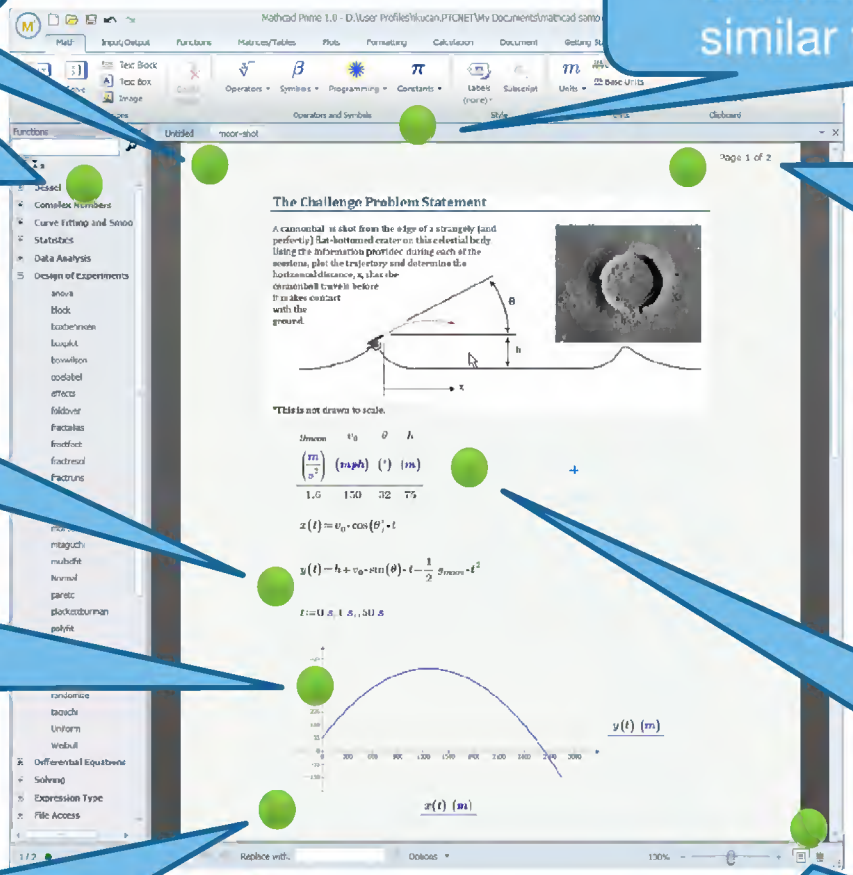


Mathcad Prime™ 1.0 Some examples of how… GEKOR PTC®

Multiple document environment

Task-based UI organizes content creation and operations into similar tabs (e.g. formatting)

Intuitive function toolbar allows rapid discovery and use



Integrated headers and footers – just double-click to edit

Improved equation editor stays a step ahead of the user

Press F1 at any time for context-sensitive, consolidated help

Directly manipulate plot limits, axes positions – no repetitive dialogs!

New spec tables allow for quick tabular organization and utility

Graph-paper interface inherently keeps things organized with clear calculation order

WYSIWYG Page-view, or draft view for extra whiteboard space

Mathcad Prime 1.0 Some details of what's in GEKOR

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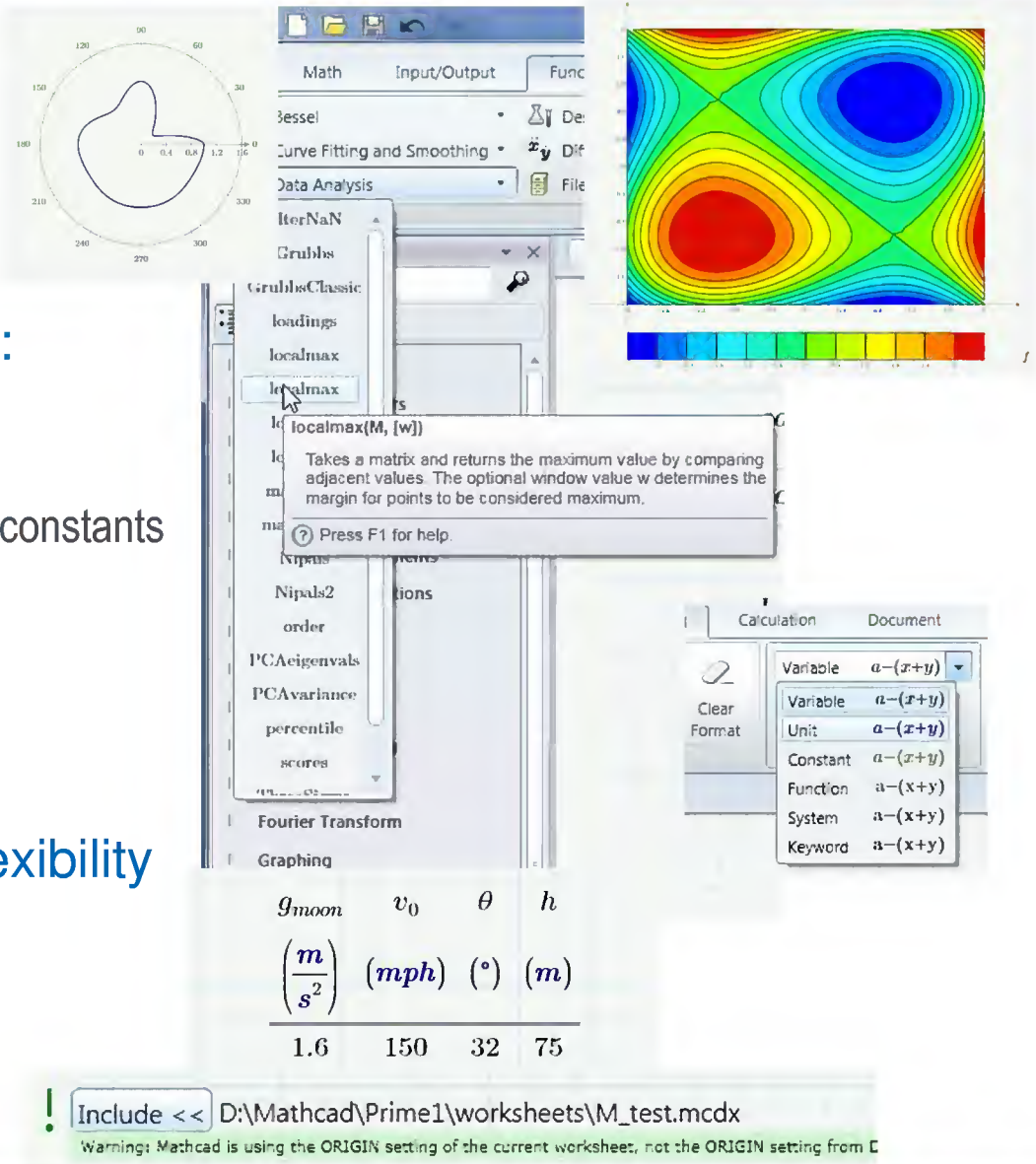
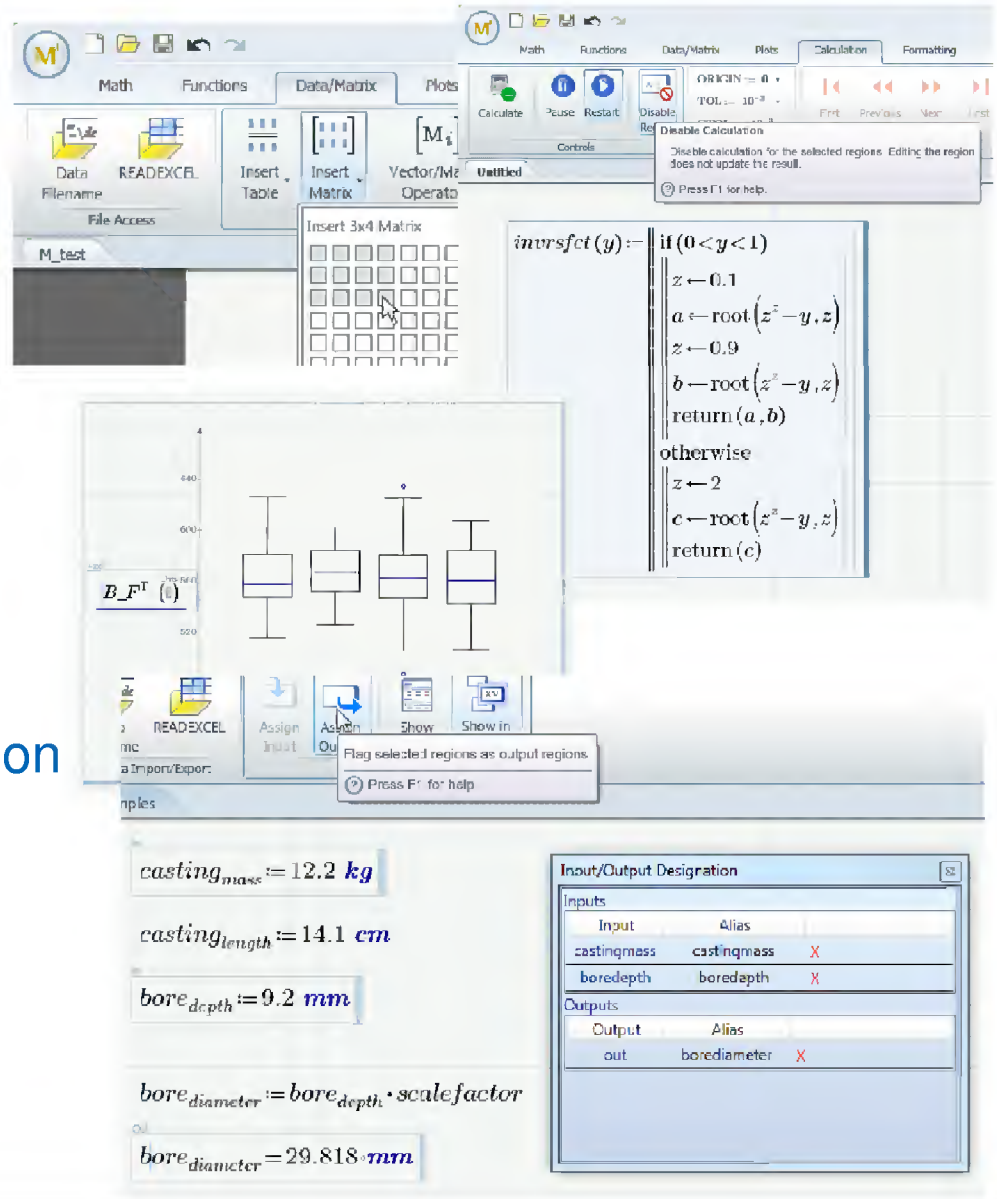
Feature highlights

- Task-oriented UI
- WYSIWYG document editing
- Comprehensive support for units:
  - Mixed units in matrices
  - Full units-support in plots
  - Labels to distinguish units / variables / constants
- Rich numeric function library
- XY, polar, and contour plots
- Spec tables for organization & flexibility
- Worksheet include & caching!
- Legacy worksheet converter

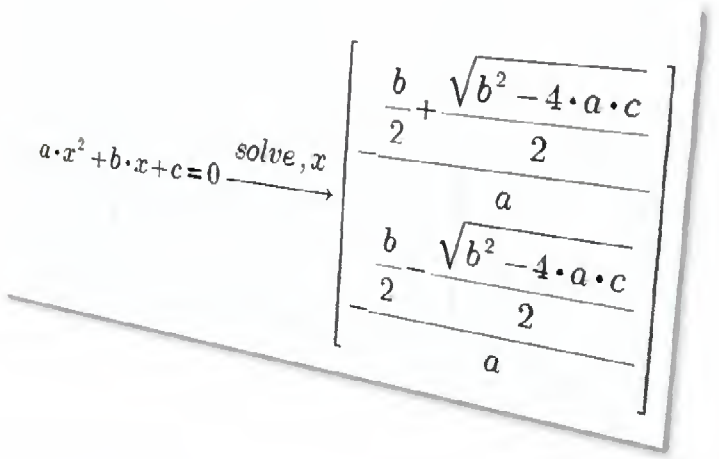


Feature highlights, cont.

- Design of Experiments support
  - New functions and plot types
- Improved programming
- Simple matrix editing & navigation
- Page / draft (whiteboard) modes
- Intuitive solve blocks
- Simplified licensing & fast trial option
- PTC product integration
  - Creo 1.0
  - Creo Elements/Pro
  - Windchill



Prime 2.0


$a \cdot x^2 + b \cdot x + c = 0 \xrightarrow{solve,\, x} \left[\frac{\frac{b}{2} + \frac{\sqrt{b^2 - 4 \cdot a \cdot c}}{2}}{a} \quad \frac{\frac{b}{2} - \frac{\sqrt{b^2 - 4 \cdot a \cdot c}}{2}}{a} \right]$

Mathcad Prime 2.0 What's coming soon!

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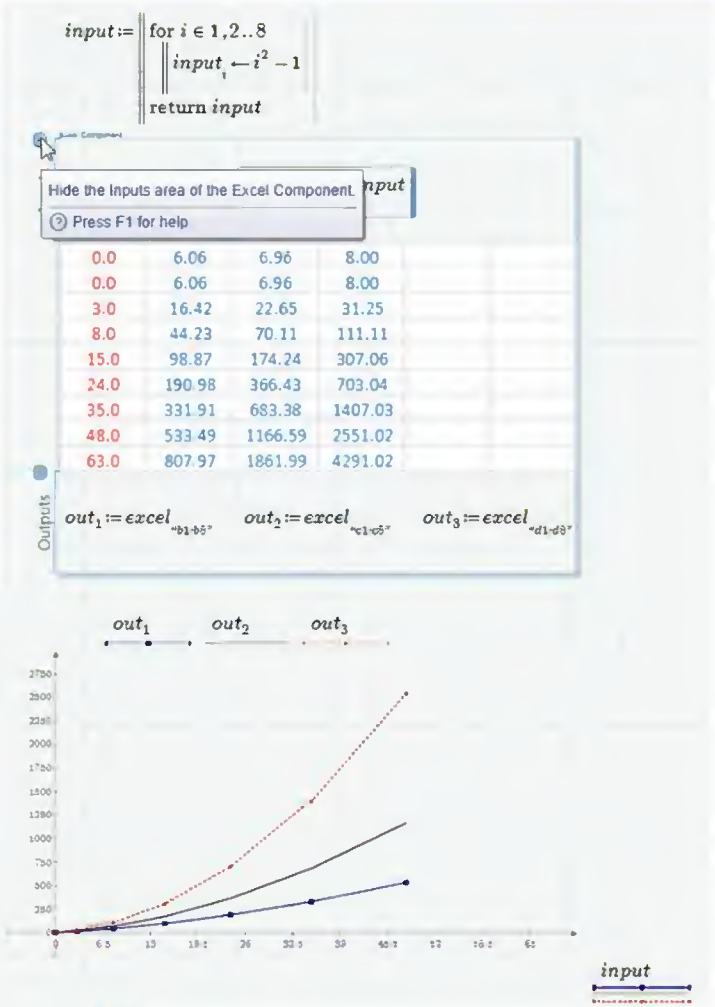
- Symbolic calculation
- 3D plots (scatter, surface, and curve)
- Embedded Microsoft Excel integration
- Collapsible areas
- Native 64-bit support for larger problems!
- Multithreaded performance
- Improved Mathcad Prime 1.0 functionality
- Improved legacy file conversion fidelity
  - Mathcad 15.0 and earlier
- Product integration support & near-term plans
  - Windchill, Creo apps



What's on the horizon (TBD!)

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We're currently considering a mix of continued improvements, overhauled integrations, and new features for Mathcad Prime 3.0

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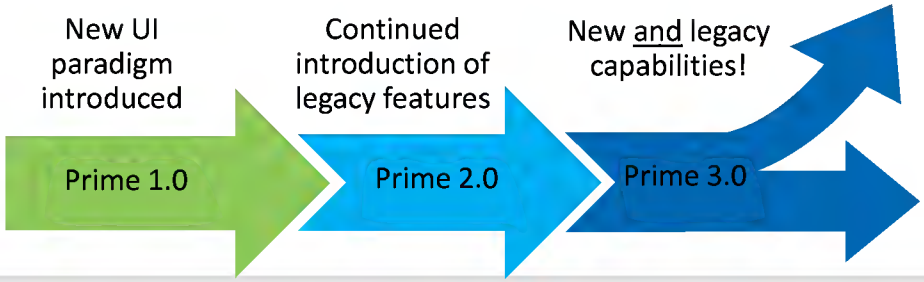
- Continued improvement
  - Capability and performance improvements to all plot types
  - Continued document features
- Continued return of legacy features
  - Templates
  - Controls
- New features and tool extensibility
  - Sketcher
  - Published APIs
- New integrations
  - Mathcad scratchpad within Creo
  - Mathcad – Integrity traceability during stages of requirements flowdown and verification



Roadmap

Mathcad Timeline: Detailed support for both products

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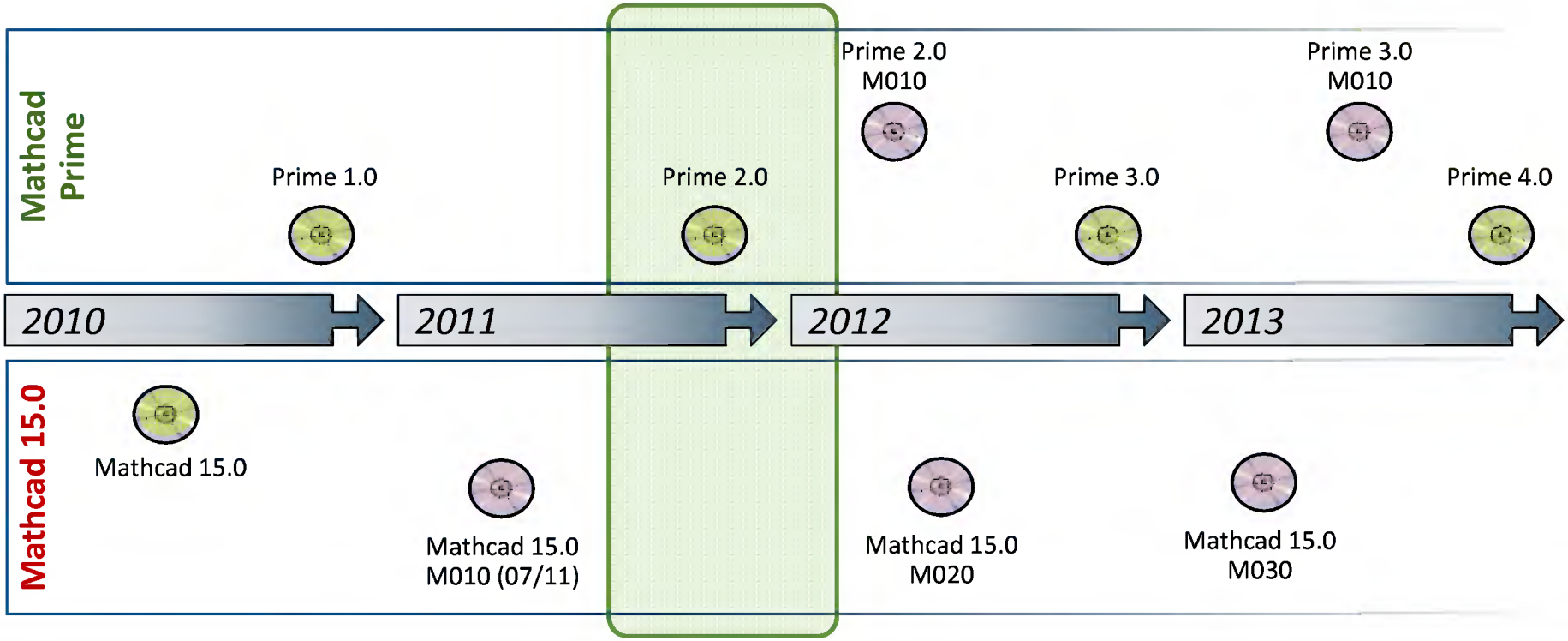
- Mathcad Prime
  - Major releases every 12 months
  - Regular maintenances releases
- Mathcad 15.0
  - Regular maintenance releases, primarily focused on bug-fixing



Mathcad Timeline: Some Prime release themes

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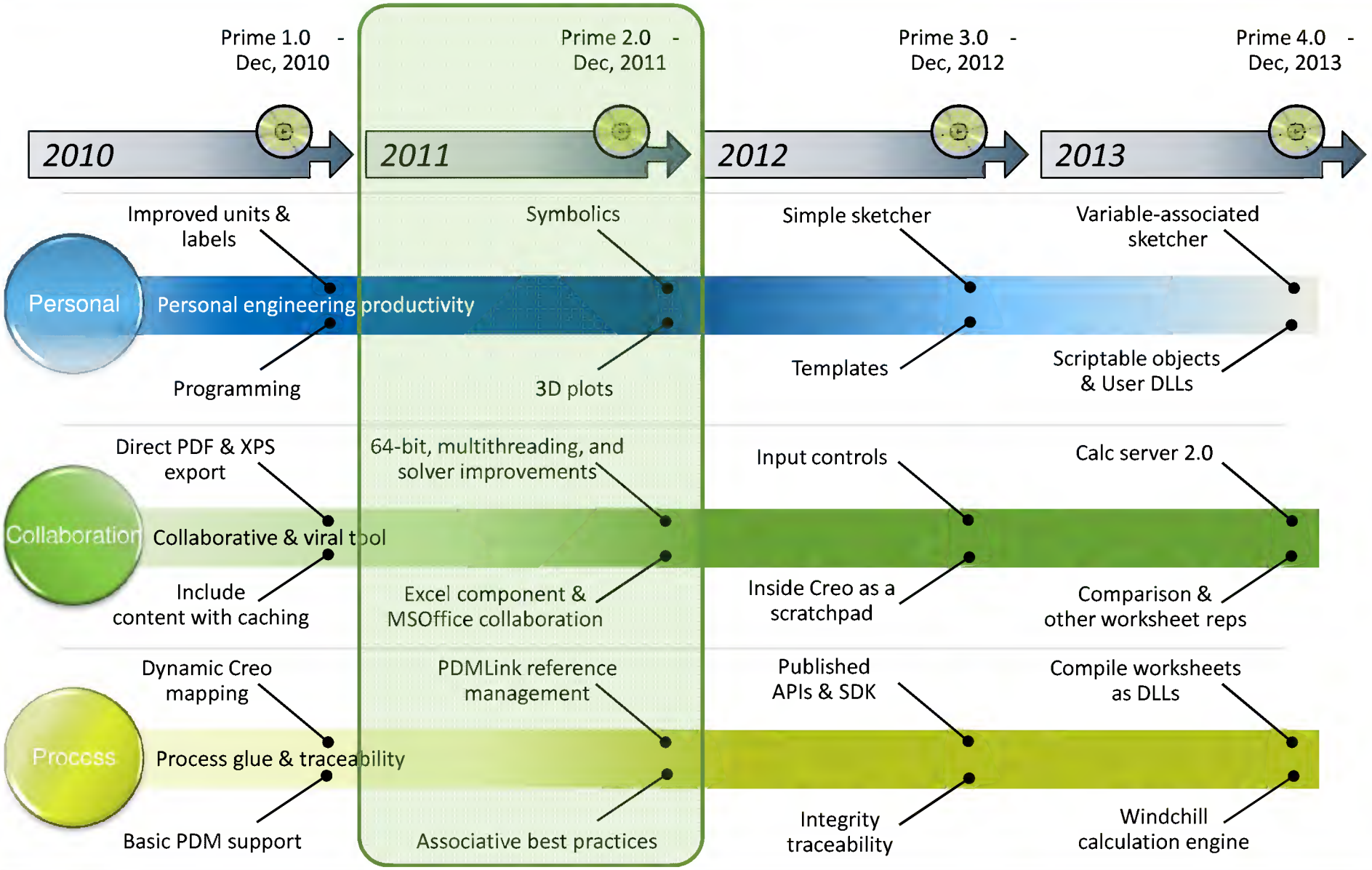

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Thank You