

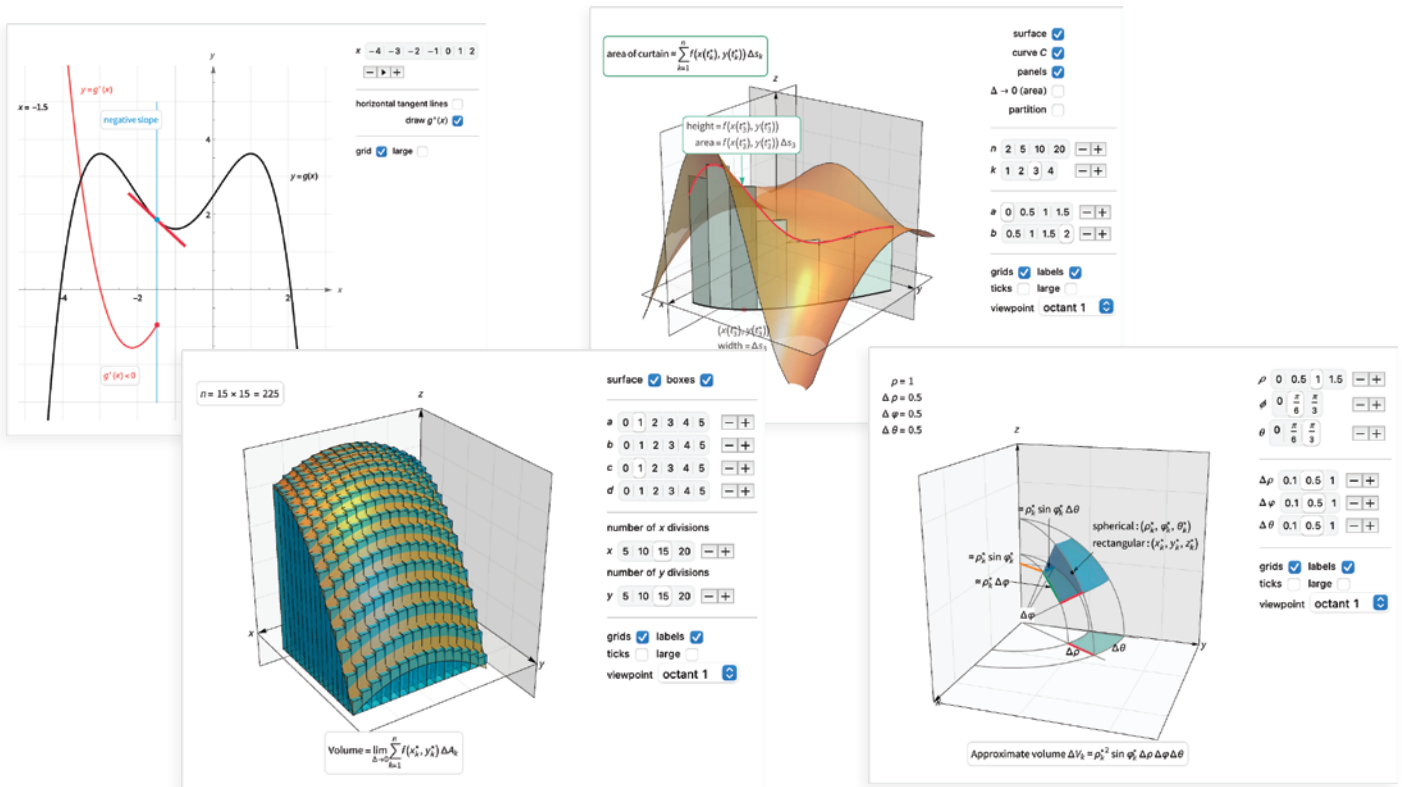


## CUSTOMER SUCCESS STORIES

# Developing Award-Winning, Interactive Textbooks with Wolfram Notebooks

Industry: Edtech

Applications



## ABOUT

Pearson is one of the world's largest education companies, operating in nearly 200 countries, serving their customers with digital content, assessments, qualifications and data.

MyLab Math is Pearson's flagship online learning platform that enables educators, authors and content creators to provide students with an interactive learning experience where they can get hands-on with mathematical concepts, explore them in real time and test their understanding.

## THE CHALLENGE

In 2010, after seeing the advantages of using Mathematica to create and present interactive visuals in the classroom, Eric Schulz, a mathematics instructor at Walla Walla Community College, started thinking about how to redefine the standard ebook model of lifeless, static pages.

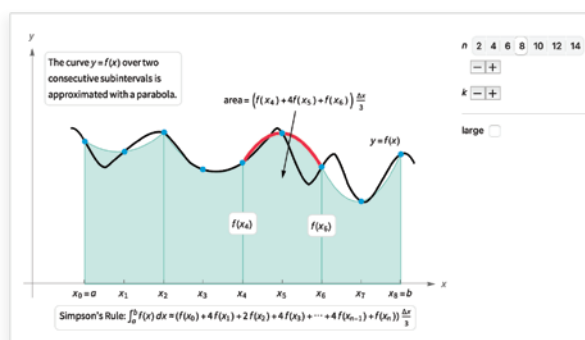
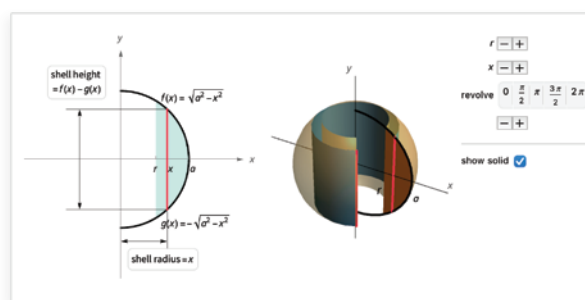
After sharing this vision and presenting some of his dynamic figures, Schulz was invited to join authors Briggs, Cochran and Gillett for a new calculus text to be published by Pearson using their MyLab Math platform.

## THE APPROACH

Having used Mathematica to create a variety of interactive calculus resources, it was clear to Eric that he was already using the ideal platform to bring his vision to life.

Using Wolfram Notebooks, Mathematica's front end interface, Eric was able to combine the capabilities of traditional text and interactive applications into a single computation-powered knowledge container. With all of this taking place within Mathematica, Eric was also able to reuse all his existing resources without having to recreate anything.

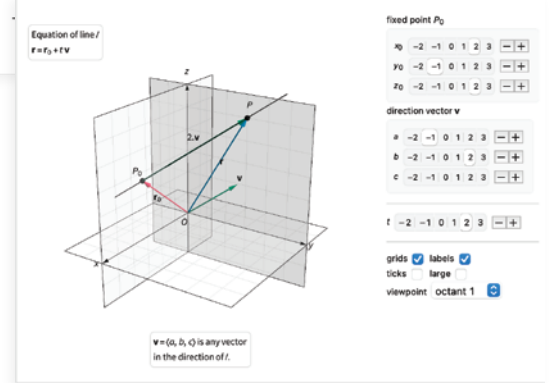
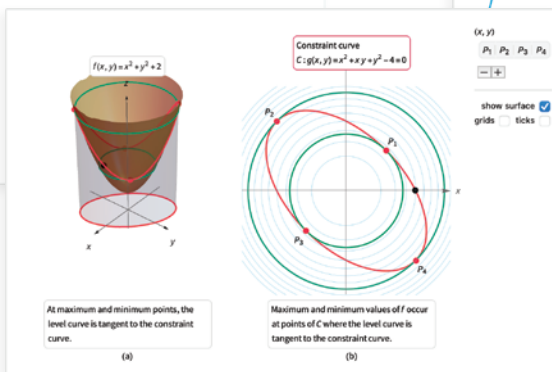
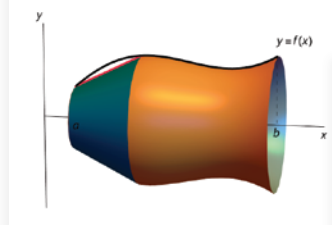
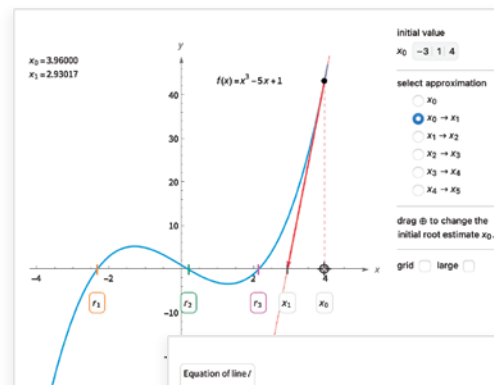
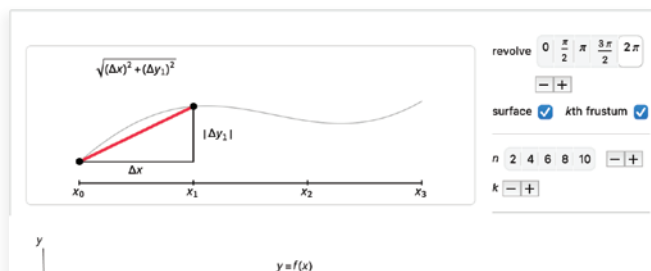
Schulz needed a way to bring the interactive, dynamic illustrations he had used in the classroom and combine them with a variety of additional media to create an online textbook that was more than just a static PDF of a traditional textbook and took full advantage of the digital format, empowering students to drive content and generate results live.



“When a student first uses an interactive demonstration and they have that first ‘aha!’ moment, they’re hooked, they return to it, they want to see the visualizations and they want to learn from them! It’s magic to see them say, ‘Oh! I see it, I get it, is that all it is?!’ When faculty experience that moment with their students, they understand the world has changed—that this is the future of education...”

—Eric Schulz

Math Instructor & Author at Walla Walla Community College



## WHAT ARE WOLFRAM NOTEBOOKS?

Carefully designed to leverage familiar word-processing metaphors, Wolfram Notebooks are uniquely powerful interactive documents that support live computation, dynamic interfaces, full typeset input, image input, a complete high-level programmatic interface and thousands of carefully organized functions and options.

Wolfram pioneered the notebook in 1988 and has led innovation on the concept ever since; the notebook has now been widely adopted as the new paradigm for technical discourse and collaboration.

The finished notebooks, full of rich, dynamic visuals alongside all the professionally typeset explanatory text you would find in a traditional textbook, were originally published by Pearson in 2010, using the then brand-new CDF Player, Wolfram's pioneering distribution format for computable documents. This allowed the widest range of readers to access industry-leading computation without having to purchase a Mathematica license.

Now in its third edition, Eric's *Calculus* eText has been continually updated to take advantage of the latest computational technologies. Pearson has published the third edition using natively embedded Wolfram Cloud documents on their MyLab Math platform. Now students are able to access the materials using just a web browser from any device, from desktop computers to tablets and even smartphones.

## ACHIEVEMENTS



### Bringing Hard-to-Convey Concepts to Life

The standout feature of *Calculus* is its dynamic, interactive visuals. Students can get hands-on with challenging concepts, manipulate a variety of parameters and understand how they affect the output. Eric, his fellow authors and educators across the United States have seen firsthand the impact this has on developing and deepening student knowledge, confidence and understanding.



### Commercial and Critical Success

Now in its third edition and twelfth year of publication by Pearson, *Calculus* has had significant commercial and critical success. The eText has been recognized with awards in the software and publishing industries, including a Textbook Excellence Award from the Textbook and Academic Authors Association. The eText is used by students and educators in universities and colleges across the United States.



### Always Up to Date

With a clear, coherent vision and centralized design, Wolfram technology is the perfect foundation on which to build long-lasting, easily updatable software. There are no packages to install and maintain, and computations written three decades ago still can be relied upon. That stability does not come at the cost of innovation, allowing Eric and Pearson to keep the text up to date and take advantage of the latest technologies.

## MADE POSSIBLE BY WOLFRAM

*“Those that have been teaching have been yearning for something that would bring our subject alive and move beyond the textual content we normally find, and support that with interactive visualizations. It's hard to imagine how a book like this would be brought alive without Mathematica.”*

—Eric Schulz

Math Instructor & Author at Walla Walla Community College

## TAKE YOUR PROJECT TO THE NEXT LEVEL

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