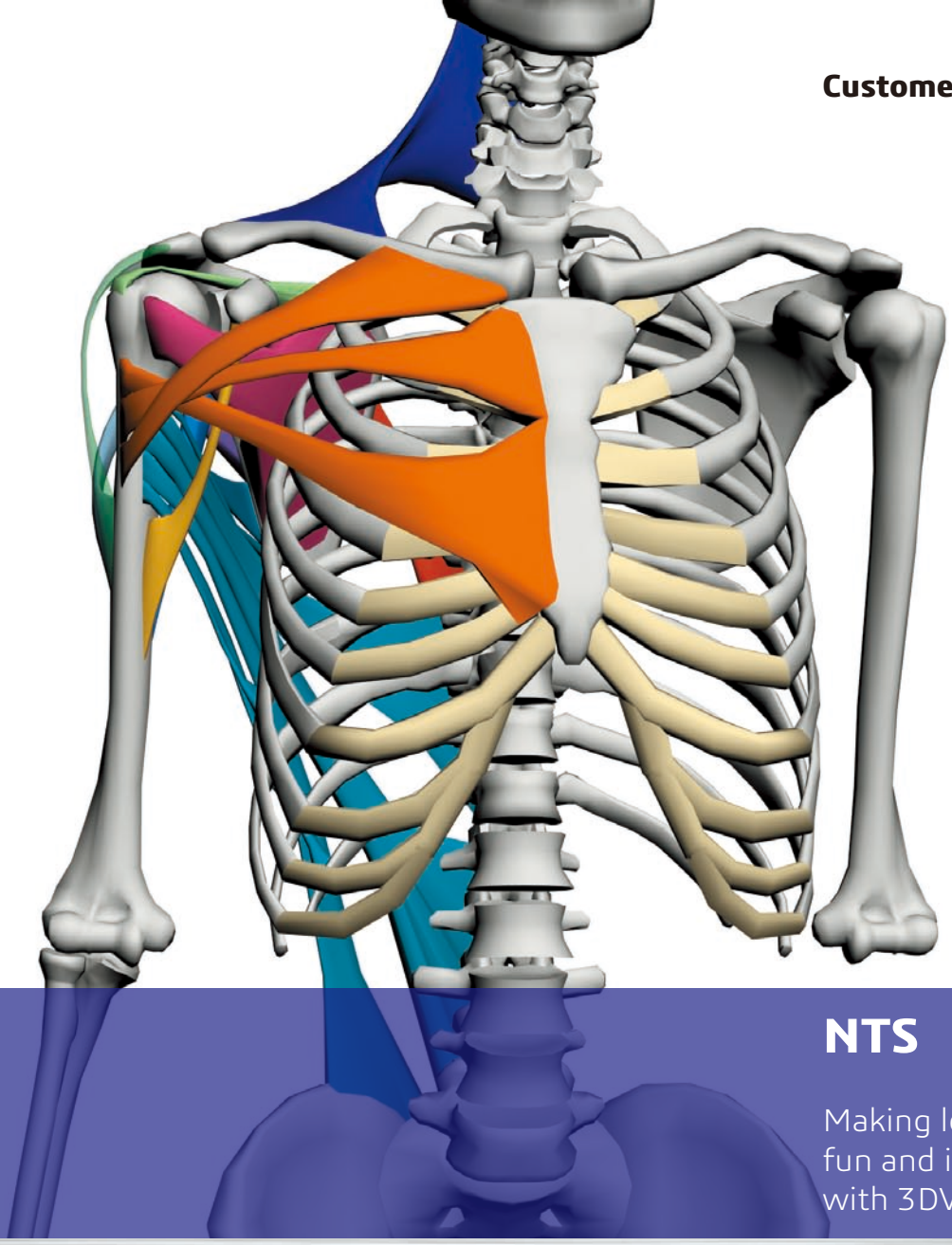
Customer Story



NTS

Making learning in 3D fun and interactive with 3DVIA

We chose 3DVIA knowing that it will allow us easily to position and interact with 3D objects in order to clearly show how muscles change their shape and size.

Kazuhito Takasawa
Manager
SC Department / NTS

Challenge

NTS wanted to create a clear and interactive way to visualize the structure and function of the human skeletal and muscular system.

Solution

3DVIA, from Dassault Systèmes, enables NTS to develop an interactive 3D application for learning about muscles and bones.

Benefits

Using 3DVIA, NTS was able to develop the 3D application in both Windows® and Mac OS® environments in just three months. The application makes it easier for users to learn about muscles in a more fun and interactive way.

DASSAULT SYSTEMES

> By leveraging 3DVIA's ease of use as a development tool, we will be able to incorporate many more versatile functions into our application.

Hiroshi Harashima
Author / 3D Odoru Nikutan
(Muscle Terminology in Flexible 3D)

Publishing bestselling books on human anatomy

The publishing division of Japan's NTS Inc. specializes in books on science and engineering. The company publishes the "Anatomy Etymology" series of books comprised of works on muscle and bone terminology, including the English terms used in human anatomy. This series of books has become increasingly popular among medical school students, so much so that it has become the top selling book of its kind in Japan, with more than 400,000 copies sold.

Adding another dimension with real-time 3D representation

NTS wanted to make the books even more appealing by enabling readers to clearly and interactively visualize the structure and function of the skeletal and muscular system in 3D. "My concept of bookmaking is to make complicated things appear simple," said Hiroshi Harashima, author of the series. As paper-based illustrations have limitations, NTS decided to use a 3D application to allow readers to freely and interactively view only the parts they want to see.

Selecting 3DVIA as the development tool

To speed development, NTS focused its efforts on modeling the muscular and skeletal systems while an external developer was engaged to develop the 3D application based on resulting models. After assessing the tools available in the market, NTS selected Dassault Systèmes' 3DVIA as the application development tool. Unlike other 3D software, 3DVIA enables NTS to reproduce a set scenario, inside an interactive Mac- or PC-based application which responds in real-time to the user's manipulation. The application can be created rapidly without writing complicated program code, and can reproduce intricate movement and logic according to the level of customization required. "We chose 3DVIA knowing that it will allow us easily to position and interact with 3D objects in order to clearly show how muscles change their shape and size" said Harashima, who is also a renowned 3D CG creator.

Up and running in just three months

The anatomy modeling took almost one year to complete. After the models were created, they were imported into 3DVIA Virtools, where animations and interactive behaviors were configured in only three months.

Fast, easy to use, and customizable

Following the completion of the application, NTS remains satisfied with its decision to use 3DVIA Virtools. "3DVIA also ensures a higher level of freedom of representation, compared with tools we've used on other projects," said Harashima, who now wants to add additional customizations to the application. "In the next version, we would like to further develop the application to allow users to move joints and muscles more freely and include an interactive Q&A."

The now completed 3D Odoru Nikutan bone terminology guide comes with full-color illustrations combined with a full-fledged 3D application that lets users select any part of the human body and view 3D models of associated bones and muscles.
The interactive 3D models can be viewed from any angle and position. When the names of muscles or bones are clicked, corresponding models blink to show the part the user is looking for. The application also allows users to view animated joint and muscles movement. Following the success of 3D Odoru Nikutan, NTS is continuing to explore new ways of employing 3DVIA technology in the publishing and education industries.

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Images courtesy of NTS

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