

Cadets at the United States Military Academy are using virtual reality (VR) to gain a deeper and more useful understanding of how commanders throughout history fought battles. Instructors escort them across the terrain through virtual reality (VR) with [Google Expeditions](#).

Major Antonio “Tony” Salinas is a U.S. Military Academy Assistant Professor of History and author of a combat memoir about his service in Afghanistan and Iraq. Always eager to make lessons come alive for his cadets, Salinas was intrigued by a colleague’s use of Google Expeditions to teach the American Civil War battle at Gettysburg, Pennsylvania. An Expeditions tour seemed the next closest thing to what the army calls a “staff ride,” where officers walk a battlefield to understand the conditions and terrain.

“The problem in military history is you can't fully replicate what it feels like to be in a battle or to be at sea,” Salinas says. “We can't replicate the battlefield conditions that a commander experiences while making decisions under the shadow of self-preservation.”

### [VR lets cadets walk in the footsteps of Caesar](#)

Salinas compares studying military history to studying medicine. “A doctor will practice on a cadaver before he or she becomes a medical doctor,” he says. “For a military officer, history is our cadaver. We can cut it open and dissect it. We can ask important questions.”

He began using Expeditions in his European History and Western Civilization classes during the 2017–18 academic year. The Major wanted his tours to help cadets understand the Gallic War, including Caesar’s battles at Alesia, Gergovia, and Bibracte. Salinas used his own onsite research in Switzerland, France, and England to create the VR tours. “It’s certainly very easy,” he says. “You use either a 360-degree photo or a Google Street View map on your own phone. It takes minimal training to be good at it.” Cadets view the tours with Google Cardboard on their personal devices, usually smartphones.

Beyond textbooks and topographical maps, Expeditions gives cadets a greater appreciation of terrain and the human factors involved during battles,” Salinas says. “We look at a map, and we forget that humans made these judgment calls. Can you imagine it being a hundred degrees and you're making a charge up a hill? What does this hill look like? I really wanted to bring life to history.”



*Photo: Statue of Vercingetorix, leader of the Gallic rebellion against Caesar, located in France's Burgundy region.*

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### **An inspirational experience through VR**

Cadets in his classes love Expeditions, Salinas says. "They always say, 'Sir, this is the coolest thing I've ever done.' One of my students wrote a paper on Alesia, and you could see it. She said, 'Oh, my gosh, I had no idea Alesia is so big!'" He adds that "you can never replicate being on a battlefield, but Expeditions is a visceral experience that includes the student."

Salinas hopes to create more tours on ancient battlefields. "Once I'm done with the Gallic War, I would love to go to North Africa, Spain, and Greece," he says. Such lessons are valuable, he believes, because everyone remembers experiences. "Sometimes we bring Roman swords into the classroom," he explains. "When the cadets hold one, they remember. When they walk the battlefield, even if they're sitting in a classroom with Expeditions, they remember."

Cadets already use what they learn from Expeditions in their papers, midterms, and final exams. Far more important, however, is how they'll use that expanded knowledge once they've left the Academy. "We judge Caesar, Grant, and Lee," Salinas says. "Why did they do the things they did?" Seeing and understanding why and how Caesar deployed his legions at Gergovia might one day prove crucial to a platoon or company commander.

Salinas partnered with Expeditions to create his battlefield tours. Since then, Google has released Tour Creator, a tool that lets anyone create VR tours just like the ones found in Expeditions. These tours can be viewed on a phone, computer, or in a VR headset like Google Cardboard. To get started building your own tours, visit [g.co/tourcreator](https://g.co/tourcreator).

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### Organization Profile

President Thomas Jefferson signed the legislation establishing the United States Military Academy in 1802. The campus overlooks the Hudson River at West Point, New York, the oldest continuously occupied military post in America. Cadets major in subjects ranging from the sciences to the humanities while studying to become army officers.

### Products Used

[Google Expeditions](#)



<p><b>Project Title</b></p>	<p>Google Expeditions of Julius Caesar's Battlefields</p>
<p><b>Project Description</b></p>	<p>Produced Google Expeditions based on the major battles of Julius Caesar's Gallic War which allow students to walk, study, and discuss battles from the classroom in a way never before possible.</p>

**Project Development**

<p>What problem was your project designed to solve?</p>	<p>To explain the importance of terrain on ancient battlefields. It is difficult to truly convey what a battlefield looks like from a simple plain map or a narrative.</p>
<p>What process did you go through to design your project?</p>	<ol style="list-style-type: none"> <li>1. Thoroughly studied Caesar's battles in Switzerland, France and England.</li> <li>2. Visited and captured 360 photos of Caesar's battlefields in Switzerland, France and England.</li> <li>3. Designed and published Expeditions for each battlefield.</li> </ol>
<p>How did you secure funding for your project?</p>	<p>While part of this project was self-funded, we also secured funding from the Marshall scholar and the Faculty Development research fund.</p>

**Logistics & Operations**

<p>Tell us about the team it took to make this project happen.</p>	<p>While I didn't hire anyone, I did occasionally meet on site with archaeologists who volunteered their time to show me around different battlefields.</p>
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## Measuring Success

<p>How did you define success and when?</p>	<p>The problem in military history is you can't fully replicate what it feels like to be in a battle or at sea. I saw success when my students were able to effectively walk ancient battlefields with me in class. Studying battles for military officers can be likened to medical students working with cadavers. Expeditions enables the student to experience the battlefield and bring it to life, giving cadets an improved appreciation of terrain and the human factors involved during battles.</p>
<p>What did you do to measure success and report on it?</p>	<p>Students were able to effectively write about Caesar's art of war during quizzes, tests, and assignments.</p>

## Learnings

<p>What is the one thing about this project that made it such a success?</p>	<p>Although cadets already use what they learn from Expeditions for assignments and exams; far more importantly, students will use their expanded battlefield knowledge once they've left the academy. Seeing and understanding why and how Caesar deployed his legions at Gergovia might one day prove crucial to a platoon or company commander.</p>
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