Zephyr
drone simulator

https://zephyr-sim.com/

IMPROVING DRONE OPERATION & SAFETY WITH ZEPHYR DRONE SIMULATOR

ABOUT US

Little Arms Studios is a software development company specializing in the creation and customization of drone simulation software, game production, mobile applications, UI/UX (User Interface and User Experience) designs, multiplayer applications, and website development and design.

Zephyr Drone Simulator, one of Little Arms' most notable products, is a full-featured drone training software for drone instructors, flight academies, professionals, and hobbyists. Their advanced UAV simulator trains drone pilots to operate safely and efficiently according to FAA guidelines. Zephyr uses real-world physics and a constantly expanding library of training modules and drone platforms meticulously crafted with accurate flight characteristics for cutting-edge drone pilot training.

ABOUT THE CLIENT

Dr. Joe Burgett is a tenured professor in the Nieri Family Department of Construction Science and Management at Clemson University and a Level 3 Thermographer. He has been in university-level academics since 2010 and teaches both undergraduate and graduate-level courses on drone application in the built environment. By trade, Dr. Burgett is a general contractor and has spent many years teaching online courses for the trade unions. His primary area of research is in applied drone technology, and he has worked extensively with the SCDOT.

Dr. Burgett was named Clemson University's 2018 Master Teacher, which is the University's highest teaching honor. He currently serves as the President and Director of the South Carolina Interagency Drone Users Consortium (SCiDUC). SCiDUC is the state's only 501c3 nonprofit drone association exclusive to South Carolina government agencies.

PROBLEM

In-person drone training is slow, expensive, and—at times—unsafe.

Imagine a classroom full of eager students, ready to fly their first-ever drone. Now imagine most of these students have nothing to do but sit around and wait. That is the reality of in-person drone training. An instructor like Dr. Burgett is limited to teaching two or three students at a time with a physical drone, and even with personal instruction the process is difficult. Most students lack rudimentary flight skills, so Dr. Burgett must bring them along carefully, lest an inexperienced operator crash the drone and cost the entire class time and money – two resources often in short supply.

The other issue is once the students leave the classroom, learning all but halts. Students can't take drones home with them to work on their skillset, and the only real way to learn how to operate a drone is to practice doing so. Dr. Burgett knows this isn't a good use of time and he must make this experience more enjoyable, efficacious, and safe.

These same problems plague professional operators as well. How are drone operators in fields like construction, utilities, security, and the military, meant to keep up to date with their training? In-person training is expensive and slow-going, and an operator with a rusty skill set is dangerous and a liability.

SOLUTION

Virtual drone training by Zephyr saves the day!

With Zephyr's technology, new students no longer need to sit and wait for in-person training. Trainees can hold a physical controller in their hands, ranging from gamepads to several real-world drone controllers compatible with Zephyr. There are dozens of scenarios in Zephyr teaching and reinforcing the basic skills of drone operations. Then, with the basics mastered in the simulator, the budding pilots can head outside and put their skills to the test with an actual drone. By allowing students to gain valuable, transferable experience before psychically piloting a drone, Zephyr reduces the risk of crashes, making training safer and cheaper.

It's also trackable—an absolute must in the world of academia and in any field where employers need to track performance or assign continued education. Thanks to Zephyr's backend learning management system, Dr. Burgett and other administrators can assign missions and check on student or operator proficiency.

Zephyr solves the problem of continued education, too. Drone operators need to stay skilled. Completing virtual drone missions with Zephyr keeps up, as Dr. Burgett says, the operator's "muscle memory." If the operators are doing annual training with Zephyr, that means that the companies or organizations responsible for the drones are less liable if something goes wrong. They can show that their operators complete monthly training to stay skilled.

RESULTS

With Zephyr, not only are classrooms running more smoothly, but so is the NIST: The National Institute of Standards and Technology. Zephyr and Dr. Burgett worked together on a Federal Highway Administration grant to develop the NIST virtual test for small, unmanned aerial systems. This in-depth test has always been done in-person, but it can now be administered virtually.

As part of the Federal Highway Administration grant, Zephyr and Dr. Burgett created "Bridge Inspection"—a five-part module on how to fly a drone safely and effectively in/around a bridge. Dr. Burgett refers to bridge flying as a daunting task and considers it to be one of the most difficult flying maneuvers that one can do. Bridges are tough to navigate but Dr. Burgett and Zephyr are proud of the work they've done to help train operators in this difficult skill.

Zephyr, along with Dr. Burgett, have big plans for the future of drone operations.

Zephyr Drone Simulator is a full-featured drone training software for drone instructors, flight academies, professionals, and hobbyists.

Dr. Joe Burgett, tenured professor in the Nieri Family Department of Construction Science and Management at Clemson University, has partnered with Zephyr to create more opportunities for training and certification in the drone space.

With Zephyr's technology, students in any field no longer need to sit and wait for in-person training. They can begin their drone pilot training with Zephyr's incredible drone simulator.

Professors/employers can track performance using Zephyr's backend system. So, if an employer wants to assign missions/continuing education, or wants to check on a student's proficiency, the data is available.

"Of all the technology that I use in my classes, Zephyr is about as stable as it gets. Whenever there's a problem, it's almost never Zephyr. And when it is, I almost feel happy—because there's always going to be a fix."

-Dr Joe Burgett,

President and Director of the South Carolina Interagency Drone Users Consortium (SCiDUC), & Professor at Clemson University

"If drone operators don't fly for six months, they're going to lose those skills. I think it's a pretty easy way to require employees who are drone active to have 'x' number of hours of stick time every month. It doesn't have to be a lot, you'd be surprised that even just one hour a month, which is not a lot, keeps it fresh."

-Dr Joe Burgett,

President and Director of the South Carolina Interagency Drone Users Consortium (SCiDUC), & Professor at Clemson University

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Zephyr is the only simulator available that the APSA has approved as equal to in-person testing.