Key Points

• Jelena and Leslie undertook a full laser scan of Studenica church, a UNESCO World Heritage Site in Serbia. These scans have been turned into the videos, images, and vector drawings that are currently stored on DataShare, Iowa State University’s data repository, powered by Figshare.

• They chose to upload their data to DataShare as it allowed them to store large amounts of data and meet the open access requirements of their grant.

• By sharing the data as widely as possible both on DataShare and on their project website, they’re hoping researchers from a variety of disciples access and reuse the data.
Considering themselves digital humanists specializing in architecture, Jelena and Leslie are interested in the application of digital tools in architectural processes. After a conference in Belgrade in 2018, Jelena met with her colleagues in the civil engineering department at the University of Belgrade who were using scanners to understand and analyze structures. This led to a collaboration between architecture and civil engineering researchers to scan the Studenica church, a UNESCO World Heritage site, to try to understand how it was built.

"The major issue is that we understand some major high-quality buildings today, but we don't understand the training of the architects and the process they used to build these structures," said Jelena. "With modern technology - and the fact that this technology doesn't emit any harmful damage to the building - it's so easy to do in-depth research on these types of buildings."

With the help of Leslie's David Lingle Fellowship, they were able to use grant funding to undergo a full laser scan of Studenica church. These scans have been turned into the videos, images, and vector drawings that are currently stored on DataShare. The data also references the journal articles associated with the data.

Jelena and Leslie continue to push the boundaries of what data is within the digital humanities. "We're trying to collect and share as much data as possible," said Jelena. "Making the data open access can lead to researchers from other disciplines developing upon the data, as well."

Jelena and Leslie are hoping to share the entire point cloud scan of the church when it’s completed, making it open for people with other research agendas to use.

When it comes to deciding on formats for submission in DataShare, Jelena and Leslie approached Iowa State Library’s Data Services Librarian Megan O’Donnell. Megan provided guidance on what file formats were archivable and assisted in the uploading process. "We're still determining which formats might be useable in the future, so we're trying to cover as many bases as possible by uploading data in various formats, including videos and vector drawings," said Leslie. However, the process for preserving and sharing the kind of data that Jelena and Leslie have generated in their field is still an exploratory area. Not only that, but the type of data architects share is evolving.

"Most people are realizing it's not just about beautiful images when it comes to architecture," said Jelena. "Architecture has so much more to offer when it comes to things like acoustics and relational proportions - things that we can't see on a screen. We'll be including this data if this project continues."

Jelena and Leslie are interested in developing the data further to create virtual reality reconstructions of the scans and computation and technological advances. Jelena is interested in how the data can help to understand the design thinking process. The civil engineers involved from the University of Belgrade are interested in how they can advance the use of the equipment for laser scanning different materials.

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DataShare isn't the only place Jelena and Leslie share their data - they also have a project website to document their research: studystudenica.org. They have referenced the data stored on DataShare on their project website, as well. "Having the data associated to a big organization like Iowa State increases the possibility for visibility," said Jelena. "This is why I personally believe that the larger the network is and the more cross references to the data, the better."

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Jelena and Leslie chose to upload their data to DataShare as it allowed them to store large amounts of data and meet the open access requirements of their grant. "There are a few open source systems used by researchers in this field - Google Earth, for example - and there are a few websites that collect point clouds, but these often aren't downloadable and reusable," said Leslie. "Having access to these kinds of documents is hugely important for me and my work. A system for these files hasn’t emerged yet mostly because the files are incredibly large. This is one of the reasons why we decided to use DataShare. There was nowhere else that was totally prepared for what we wanted to do and how we wanted to do it."

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