Report: ATRIUM 3D Models Training School 2025

Participant: Martha Mosha
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Introduction

The take home lesson from the ATRIUM 3D Models Training School 2025 is that "being lazy and impatient" is a trait ONLY for the gifted. The one week training took place between the 15th to the 19th of September 2025 and was hosted at the Institute of Archaeology, Czech Academy of Sciences, Brno.

As the instructors, David, Tomáš and Vojtěch, explained how we would take photos of a given selected part of the Cathedral of Saints Peter and Paul onsite that cold Tuesday morning, we listened carefully and recalled all that we had learned in theory the previous day. Monday was dedicated to learning and understanding the concepts behind photography and photogrammetry. With the use of presentation slides and illustrations with actual cameras, the participants learned how to take photos at a given site- in theory.

Figure 1: David Spáčil, showing how to capture the measurements of a site with aid from Emre Resuloglu.
© M. Mosha

The Assignment

Tuesday was then the practical part of the photo taking which then came with an assignment to capture a small section of the Cathedral which we can use to learn how to produce a 3D render. This had us excited as for some, this was the first time that they get to fully experience capturing and rendering of a site.

Finding My Team

Based on a random allocation, I got to be on a team with John and Marco- two individuals who immediately accepted that we were going for a complex shape and not just a slate on one of the walls. As we walked around the Cathedral, we each know we had not found what we are looking for until we arrived at the statues. There were free standing statues that, after much debate and a voice of reason from Vojtěch, we decided to let go of the idea to use as a test subject for beginners.

Finding the Site

We then tracked back to an ecclesiastical heraldry achievement (crest) that we passed at some point. This was found near a door and under a small roof. It featured a number of components which came out of the casting in 3D.

Figure 2: Initial idea to capture one of the statues outside the Cathedral of Saints Peter and Paul. © M. Mosha
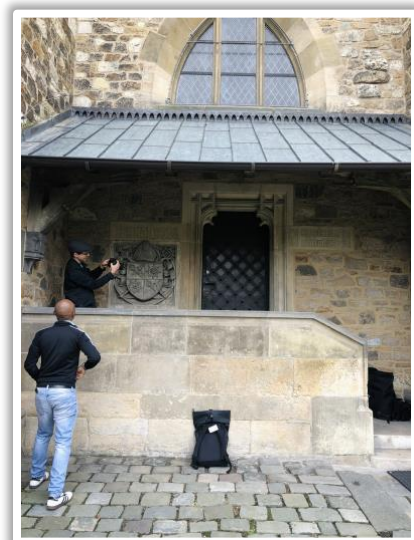
Figure 3: Second idea of an ecclesiastical heraldry achievement (crest) at Cathedral of Saints Peter and Paul (in photo John Kanyingi and Marco Brunello
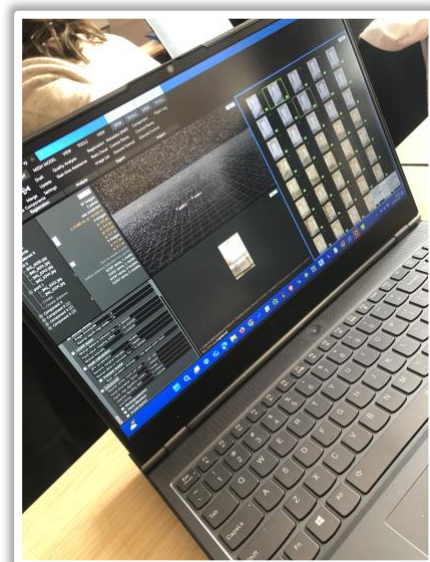
Capturing the Sites

With much enthusiasm, the three of us agreed that we will use that as our area. Vojtěch looked on and assisted as we worked though planning of the complexities of the position of the ecclesiastical heraldry achievement - the limited area to take photos, the funny lighting which was caused by the shadows from the roof, the intricacies of the ecclesiastical heraldry achievement with many differently shaped and positioned components.

Figure 4: Close up of the ecclesiastical heraldry achievement at Cathedral of Saints Peter and Paul. © M. Mosha

The list went on however, Vojtěch shared that we can have a "fall back plan"- just in case we failed to pull off the 3D render of the ecclesiastical heraldry achievement. We were then to pick a second site that we would capture and use as Plan B. A visit from David confirmed that we were biting more than we could chew but he re-assured us of the lessons we would learn from the experience- good or bad.

Figure 5: Processing of the images for Project 1 in RealityScan.© M. Mosha

So, we went ahead and took the photos- a total of 248 of them. Looking back, it was a bit excessive. However, since the three of us took turns to take photos, we were oblivious to the true number of photos taken. We therefore felt the pain after as we would work with the images on RealityScan as most key steps required a render which took time considering the many million points that were created from the photos.

Developing the 3D Render

The team spent the Tuesday afternoon and evening working on the model and victory was ours. The rendered image came out looking astonishing- to us, it was one of the best thing we ever saw. Surely when one looked at the properties of the 3D render, there were some areas that could have used more details- that is for next time as this time, we were the happiest photogrammetry team ever.

Works on Wednesday, Thursday and Friday saw us learning with other participants to work on finalising the 3D render, exporting it and fixing little bits in Blender so we can prepare it for export to a 3D viewing platform. We went all out and showed off our hard work to the public through Sketchfab.

There is a showcase of the original work named Project 1, a back-up of the work named Project 2 and a backup of the back-up of the work named Project 3. Only a team of like-minded people will agree to capture three sites just in case one did not work and still work out all three. Thanks to the tribe.

Figure 6: The ecclesiastical heraldry achievement as rendered by J. Kanyingi.

Access: https://skfb.ly/pBvEG

Figure 7: Wall inscription which was next to the ecclesiastical heraldry achievement as rendered by M. Brunello.

Access: https://skfb.ly/pBvvx

Figure 8: Another wall inscription from the opposite end of the church as rendered by M. Mosha.

Access: https://skfb.ly/pBwor

Acknowledgements

Figure 9: The tribe (from left to right: John Kanyingi, Marco Brunello and Martha Mosha)© M. Mosha