

## INFRASTRUCTURAL VISUALISATION APPLICATION AND PHOTOGRAMMETRY PIPELINE

<b>YOUR JOB</b>	Design an infrastructural visualisation application for desktop and VR based on user research. Secondly look into a quick and robust photogrammetry pipeline.
<b>DESCRIPTION</b>	<p>Maintenance of infrastructural objects like bridges is a time consuming but necessary task. Currently, this is done by an inspection that often results in an extensive report that requires quite some time to understand.</p> <p>To speed up this process and to allow for a more intuitive inspection method one could use photogrammetry to create a visual copy of a infrastructural object. On this visualisation, all kinds of data could then be projected. However, to create such visualisation, some questions should be answered. For this, we would like to ask for your help!</p> <p>Within this assignment, we ask you to look at the photogrammetry pipeline and the development of an application for desktop and VR. Here you will have to:</p> <ul style="list-style-type: none"> <li>- Engage with end-users to see what kind of functionality they would like to have in a desktop and VR application.</li> <li>- Research how to robustly and efficiently convert photos to either a point cloud or polygon mesh.</li> <li>- Design and build a prototype application that can show the infrastructure visual to the end-users.</li> <li>- Test the developed application with end-users and evaluate its use.</li> </ul>
<b>ABOUT YOU</b>	You are CMGT or HBO-ICT graduate student with an interest in photogrammetry, VR and user research.
<b>ABOUT US</b>	<p>During your graduation you will work for the research group of Ambient Intelligence. The group's main focus is in the area of to safety, sports and smart industry in the area of connected embedded sensor, data sciences and augmented interaction.</p> <p>During the graduation you will work in the Saxion XR Lab where we connects education, research and external organisations around XR (VR &amp; AR), game technology, storytelling and 3D. The lab is located in the Saxion Alphons Ariëns building, where you will work together with other students and researchers. During your graduation, you will have ample time to engage in lots of fun activities &amp; meet-ups.</p>
<b>PERIOD</b>	September 2020 – January 2021
<b>REIMBURSEMENT</b>	You will receive a standard Saxion graduation reimbursement of around € 240,- per month.
<b>CONTACT &amp; MORE INFORMATION (SEE NEXT PAGE)</b>	<p>Matthijs van Veen  <a href="mailto:m.w.vanveen@saxion.nl">m.w.vanveen@saxion.nl</a>          06 - 190 73 976</p>