

Domain



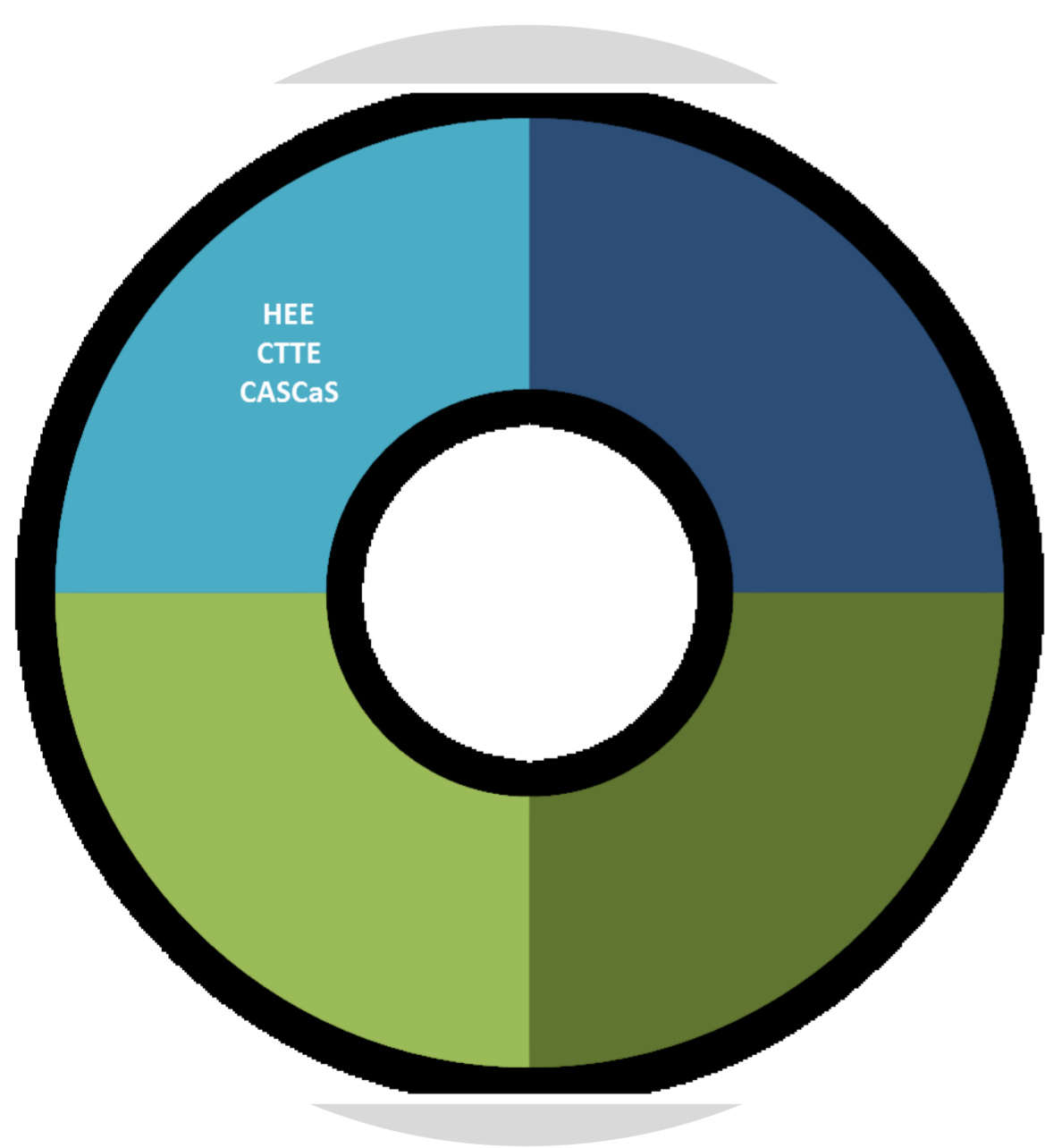
Motivation

X-ray angiography is commonly used during **minimally invasive procedures**. However, the resulting 2-dimensional (2D) images provide only limited information about the anatomy.

A **3D rotational acquisition** allows better visualization of the clinical treatment, but is very **complex**, has high **risk** and requires **skilled staff**.

The goal of the 3D Acquisition use case is to help the staff to become more **confident** in acquiring 3D image data by developing **novel Human Machine Interaction**.

Applied MTTs



Current State: Tailored HF-RTP

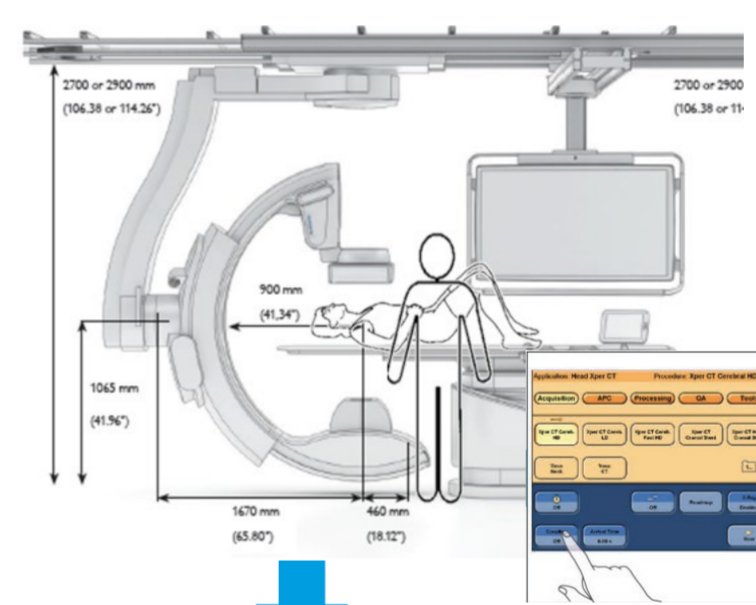


The tailored HF-RTP consists of several tools: **A Task Editor** to identify interaction tasks between the operator and system. The **Human Efficiency Evaluator** to model the interaction capabilities of the environment, to demonstrate procedures for common tasks and to execute **CASCAs**, a cognitive architecture for prediction of human behaviour, allowing analysis of **Human Factor Metrics**.

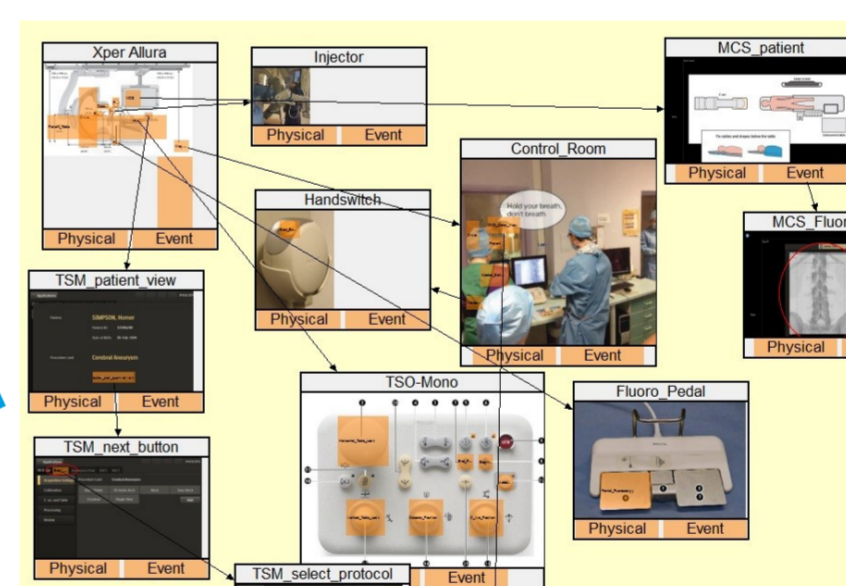
Workflow Description



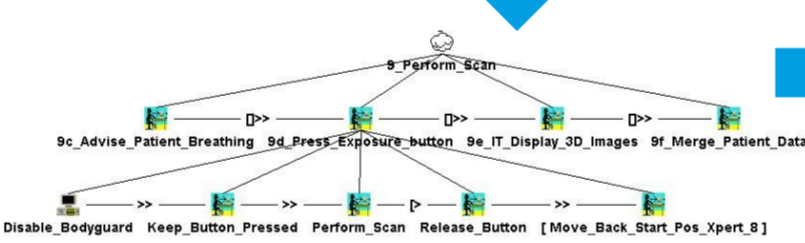
Photos / Sketches of the AdCoS



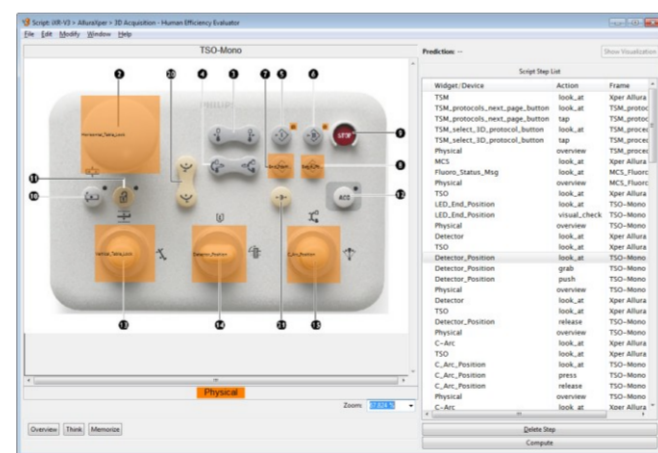
HEE: Wireframing of the HMI



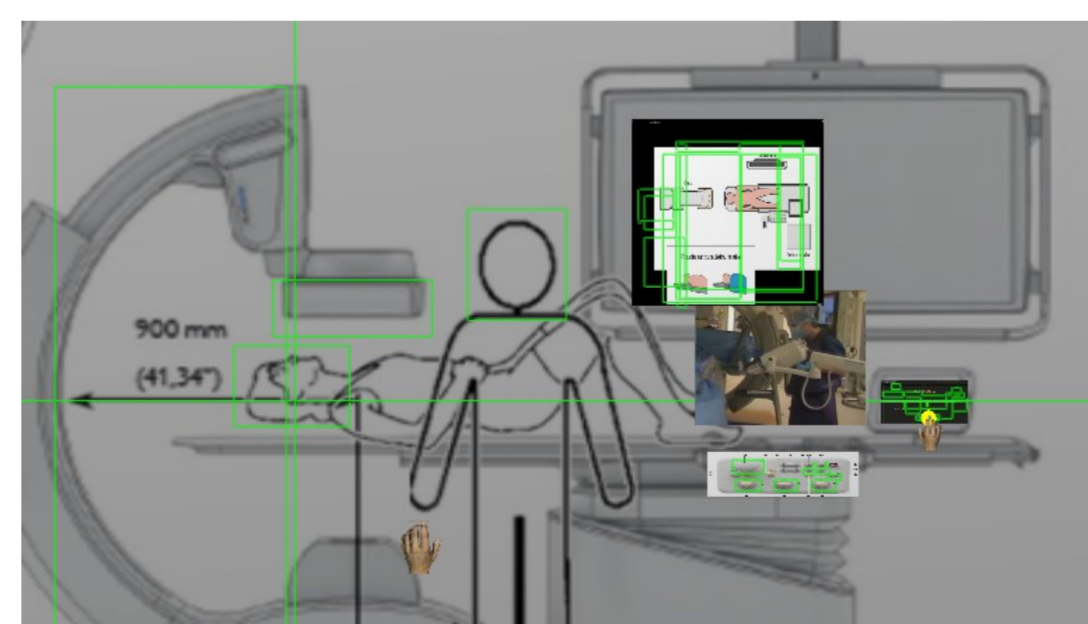
CTTE: Task Analysis



Workflow Demonstration

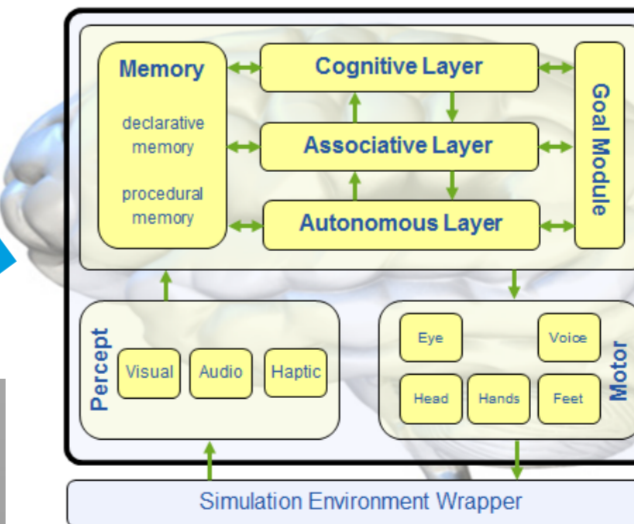


Detailed Comparison of the Operator's Cognitive Processes



CASCAs: Visualization of the virtual Operator

Simulation with CASCAs

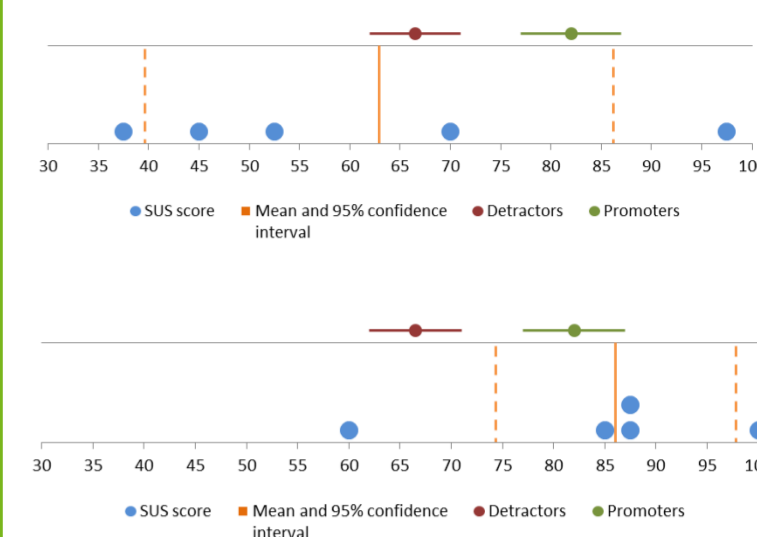


Human Factor Metrics

- Task Performance
- Workload

Results

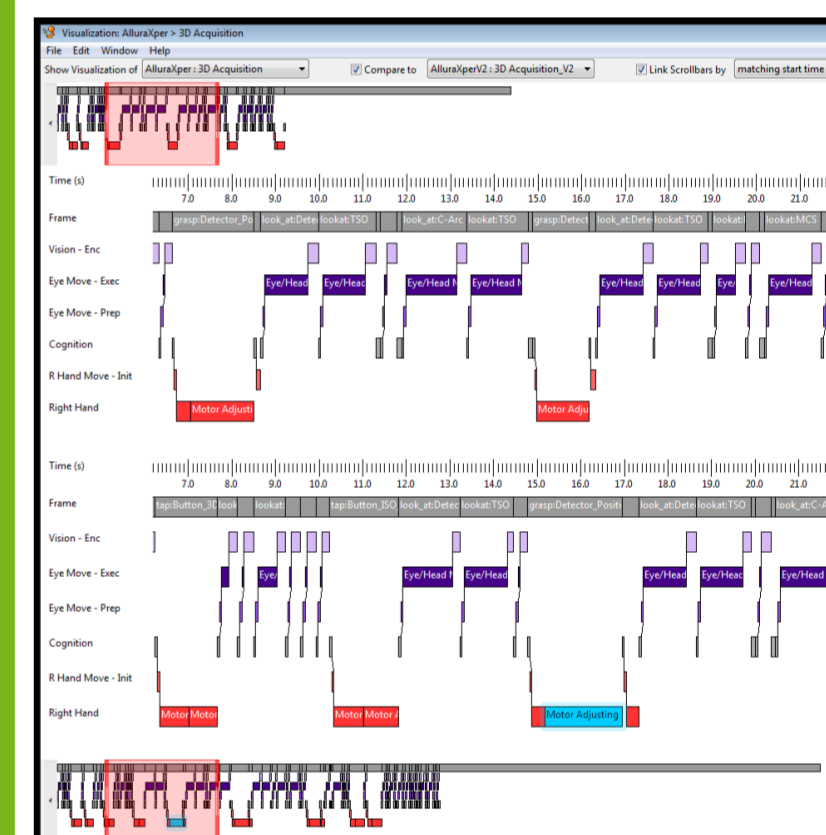
System Usability Scale



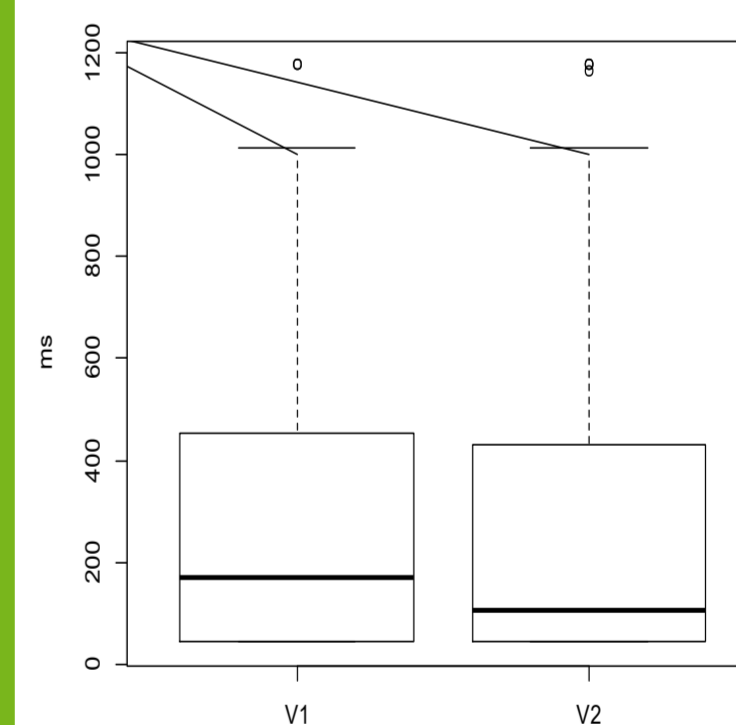
Task Performance Prediction

Project: iXR-V8 - Human Efficiency Evaluator		
File	Edit	Modify
Tasks	AlluraXper	AlluraXp...
3D Acquisition	30,868.0 s	
3D Acquisition_V2		52,021.0 s
[Research]		

Workflow Comparison



Eye & Head Movements



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Consortium



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