

Title: Automated integration of extract-based CFD results with AR/VR in engineering education for practitioners

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Supplementary Material 2

Table 1 Data- and workflow of the development procedure in details from the system architecture.

Component		Data creation					Data processing		AR/VR technology			Data processing		End-user console	
Sub-component		CAD	Pre-processing	Simulation	Post-processing	Database	Extraction	Transformation	Virtuality continuum	Concept of immersion	Perception	Integration	Interaction	Built-in	Simulator
System requirements	OS	Windows	Ubuntu	Ubuntu	Windows	Windows	Windows	Windows	Windows	Android	Android	Windows	Android	Windows	Android
	Software	FreeCAD	OpenFOAM SnappyHexMesh	OpenFOAM pimpledymfoam	ParaView	File-based	ParaView	Blender	Unity	Vuforia	Vuforia	Unity	Vuforia	Unity	Mobile application
	Hadrware	laptop	laptop	laptop	laptop	laptop	laptop	laptop	laptop	smartphone	smartphone	laptop	smartphone	laptop	smartphone
	Add-in	-	-	-	-	-	-	-	Vuforia	Virtual button	Camera	Vuforia	Marker	smartphone	Marker
	Network	-	-	-	-	-	-	-	-	-	-	LAN & WLAN	-	USB	-
	Programming language	Phyton	C++	C++	Phyton	-	Phyton	Phyton	C#	C#	C#	C#	C#	C#	C#
	IoT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Data analytics	Dataflow	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Format	STL	FOAM	FOAM	FOAM	FOAM	X3D	FBX	FBX	-	-	FBX	-	FBX	APK
	Size (MB)	2	122	4807	4807	4807	85	12	12	-	-	12	-	12	58
	Processing period (s)	-	-	-	-	-	4.8	30.72	-	-	-	6.5	-	65	112
Data coupling	One-way	-	-	-	Python in Anaconda Navigator with required packages								-	-	-