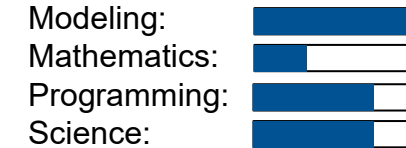


IFC model analysis to gain insights into design processes

Task

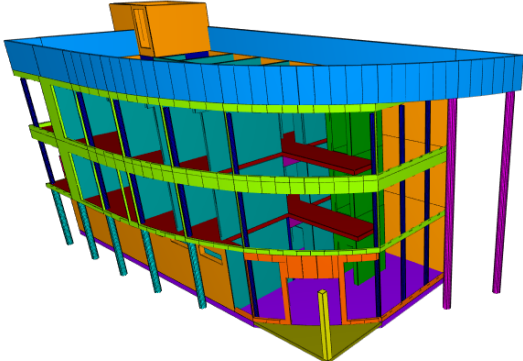
- BIM models can contain massive information, which are difficult to manage
- Statistical analysis of properties can help identify unexpected values or predicting missing properties enhancing the overall model quality

Project Characteristics



GENERAL INSTRUCTIONS:

- Get familiar with quality aspects of BIM models
- Derive best-practice modeling techniques from a set of BIM models provided by industry professionals
- Derive Information Exchange requirements to be applied in new projects
- Visualize model defects in a web-based environment and propose enhancements
- Build a web-platform that enables the extraction of exchange requirements from a BIM model



Existing BIM Models

Building Elements - General	Type	Gross Area	Area	Bottom Area	Length	Height	Thickness	Volume	Count	Color
Columns	C-1 240 x 240			0,06 m2	3,15 m			181 l	1	Yellow
Columns	C-2 D300			0,35 m2	17,50 m			1,22 m3	5	Cyan
Columns	C-2 D350			0,19 m2	19,60 m			1,85 m3	2	Magenta
Columns	C-4 D200			0,72 m2	68,35 m			2,11 m3	23	Blue
External Walls	EW-1 240	425,56 m2	370,95 m2	31,19 m2	132,54 m	62,35 m	4,80 m	87,09 m3	20	Orange
External Walls	EW-2 100	6,08 m2	6,08 m2	0,63 m2	6,40 m	1,90 m	200 mm	599 l	2	Red
External Walls	EW-3 100	77,96 m2	77,96 m2	5,55 m2	55,67 m	18,20 m	1,30 m	7,77 m3	13	Green
External Walls	EW-4 100	132,83 m2	41,02 m2	5,59 m2	56,22 m	50,40 m	1,60 m	4,02 m3	16	Light Blue
External Walls	EW-5 100	34,42 m2	8,37 m2	1,25 m2	12,62 m	10,50 m	300 mm	791 l	3	Purple
Floor Slabs	FS-1 300	191,07 m2	191,07 m2	191,07 m2			600 mm	57,32 m3	2	Dark Blue
Floor Slabs	FS-2 200	322,63 m2	312,79 m2	312,79 m2			600 mm	62,56 m3	3	Brown
Floor Slabs	structural con...	6,80 m2	6,80 m2	6,80 m2			150 mm	1,02 m3	1	Dark Red
Load Bearing Walls	IW-4 70	67,89 m2	61,59 m2	1,47 m2	21,90 m	37,20 m	840 mm	4,13 m3	12	Light Green
Partition Walls	IW-1 100	453,57 m2	415,38 m2	14,72 m2	148,12 m	110,40 m	3,60 m	41,24 m3	36	Light Purple
Partition Walls	IW-2 150	172,61 m2	136,07 m2	8,11 m2	54,50 m	28,20 m	1,35 m	20,21 m3	9	Dark Purple
Partition Walls	IW-5 30	3,99 m2	3,99 m2	0,31 m2	10,50 m	1,43 m	90 mm	120 l	3	Dark Blue
Total:		1.895,41 m2	1.632,07 m2	580,80 m2	607,07 m	320,58 m	15,43 m	292,23 m3	151	

