Project Folder Database

Documents and files for scenarios

BIM GAME I.O. #1

Table of Content

1 Introduction

These are documents developed from the files made by universities, companies during the design and construction of buildings in a BIM approach. The work of the BIM GAME team as well as the university partners will make it possible to recover the interesting data to realize these documents enriched of multiple information. Depending of the scenario, it can be:

- ➢ 3D models in different formats
- ➢ BiM Execution plan
- ➢ Welcoming letters for students for each role
- ➢ BPMN diagram
- ➢ BCF files
- ➢ others documents as presentation of students, requirements for the project, hotos of building sites related to the objects of the model, etc.

2 Folder structure

In order to organize the folder, the BIM GAME team decided to create resources for each scenario described in IO #3. A teacher can of course use files for other pedagogical situations. Most of resources have been tested before by students during experimentations or competitions. If it's not the case, the field "Tested / Not tested" notify it.

Here are the different fields:

- ➢ Scenario information
  - • Scenario number
  - • Shortname
  - • Fullname
  - • Desired Competences

- ➢ Resources
  - • Type of resource
  - • Name of resource
  - • Filename
  - • Tested / Not tested

3 Scenario Library

3.1 Scenario #1: Boiler

Scenario 1-0 / Level 01: Facility Management: The inventory documentation of a boiler is deviating

3.1.1 Desired Competences

Acquisition of the ability to work with the BCF format in a BIM process.

3.1.2 Resources

Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	Revit Tekla BIMsight IFC	Modell_Uni Wuppertal.rvt https://www.tekla.com/products/tekla-bimsight/download JH-01_scenario-tank_ifc-buw_v2.ifc	x x x	
Description	BIM Execution Plan Trainer The tank Facility Manager Engineer MEP Object Planner	JHS-01_scenario-tank_BIM-Game_BIM-Execution-Plan_v1.pdf JHS-01_scenario-tank_part-introduction-trainer_v2.pdf JHS-01_scenario-tank_part-introduction-all_v1.pdf JHS-01_scenario-tank_part-data-sheet_aostt35200.pdf JHS-01_scenario-tank_part-introduction-all_v1.pdf JHS-01_scenario-tank_part-introduction-all_v1.pdf JHS-01_scenario-tank_part-answer-MEP_v1.pdf JHS-01_scenario-tank_part-answer-OP_v1.pdf	x x x x x x x x	
videoconference	Teamviewer	https://www.teamviewer.com/en	x	
Process	BPMN BCF	global-prozess-for-stakeholder.png global-prozess-for-trainer.png JH_01_scenario-tank.bpm JH_01_scenario-tank.png Autausch Wassertank.bcfzip NotesExported.bcfzip Autausch Wassertank.pdf	x x x x x x x	
Evaluation of the test	Powerpoint	BIMGame_result-test-JHS-01-Oldenburg.pptx		
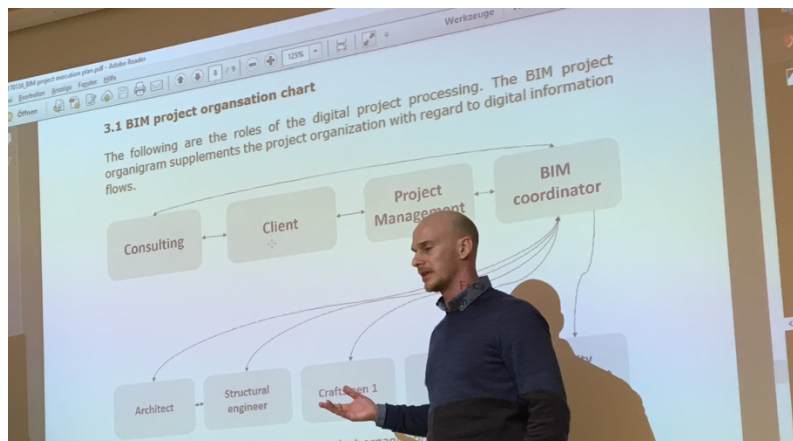
Figure 1 - First scenario - Oldenburg (Germany)

3.2   Scenario #2: Combine-Appartments

Scenario 2-0 / Level 01: Object Planner: The buyer of a property would like to combine two apartments

3.2.1   Desired Competences

Acquisition of the ability to work with the BCF format in a BIM process.

3.2.2   Resources

Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	Revit	JH-02_coordination-model-object-planner_2016.rvt (according to current plan)		x
				x
		JH-02_specialist-model-for-structural-design.rvt		x
	IFC	JH-02_scenario-combine-appartments.ifc		x
Description	Object Planner	JH-02_scenario-object-planner.pdf		x
	Engineer	JH-02_scenario-strucural-engineer.pdf		x

Figure 2 - Speaking about framework - Oldenburg (Germany)

3.3 Scenario #3: Window

Scenario 1-0 / Level 01: conception: window modification

3.3.1 Desired Competences

Collaboration between different job better understanding of the BIM process

3.3.2 Resources

Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	Pleiade Lexocad IFC	MOBIG12_Base.alcp maison inter.lxz PROJBIM traductgeneral.ifc	x x x	
Description	Architect Design drafter 1 Design drafter 2 Economist Thermal engineer	W1_architect_introduction role and scenario.pdf W1_design drafter 1_introduction role and scenario.pdf W1_design drafter 2_introduction role and scenario.pdf W1_economist_introduction role and scenario.pdf W1_thermal engineer_introduction role and scenario.pdf	x x x x x x x x	
videoconference	Teamviewer	https://www.teamviewer.com/en		
Process	BPMN BCF	window scenario BPMN2.pdf window problem.bcfzip	x x x	

Figure 3 - Window scenario with students - Mouchard (France)

3.4   Scenario #4: MUE (University House of Education)
Scenario 2-0 / Level 01: architecture: lego project

3.4.1   Desired Competences

Design a pavillon for the university. Use of lego brick to define cost and ecofriendly material use.

3.4.2   Resources

| Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	Revit Sketch Up	Revit_template_Lego.rvt Base module + environment urban.skp Base module.skp	x x x	
Description		181109_BEP_student_competition Competition-program.pdf HOW-TO-competition.pdf Presentation-Team-1.pptx Presentation-Team-2.pptx Presentation-Team-3.pptx Stress session framework.pdf Team_composition.pdf	x x x x x x x x x	
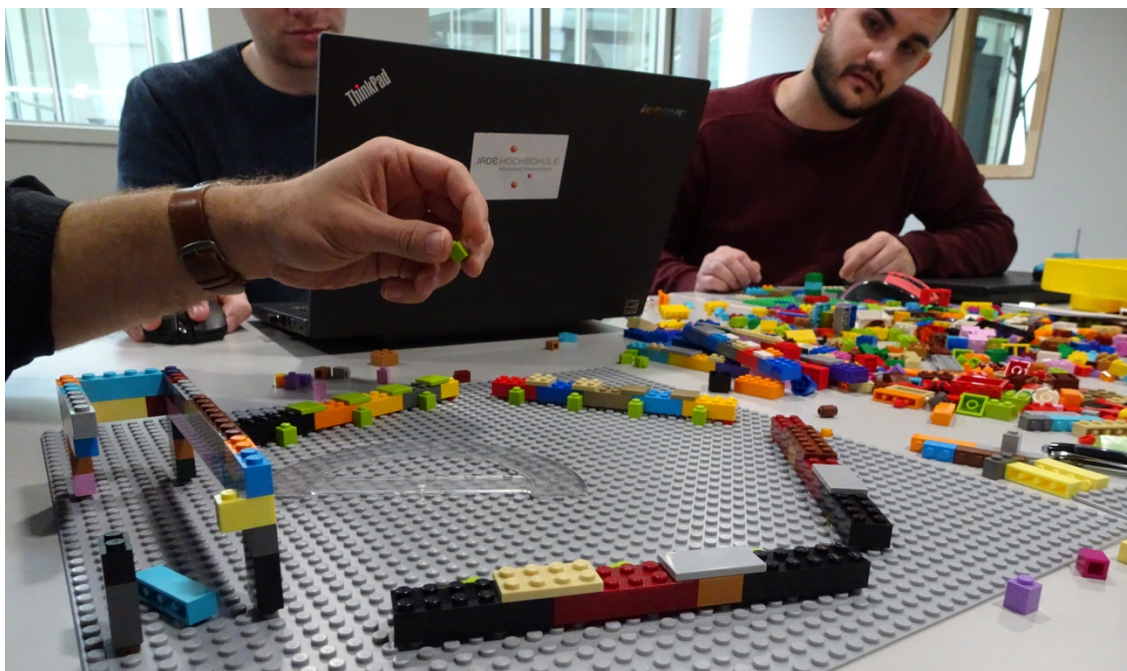
Figure 4 - Scenario MUE Project - Besançon (France)

3.5   Scenario #5: Building Permit
Building permit issuance

3.5.1   Desired Competences
Learning using the Sketchup software for the integration of BIM in an architectural process that takes the different stages since the meeting between the client and the architect until the 3ling of the planning permit.

3.5.2   Resources

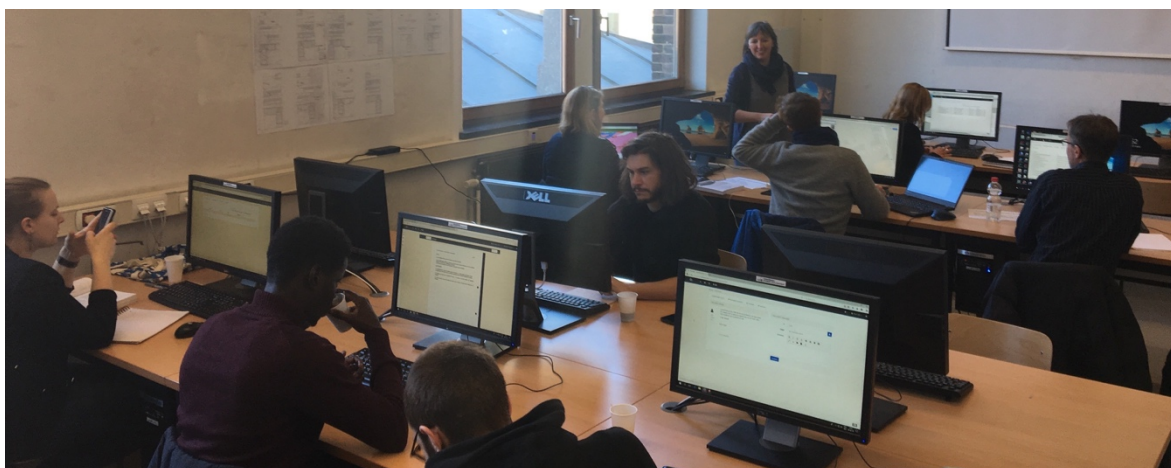| Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	Sketchup	M15_after.skp M15_before.skp	x x	
Plans	context	M15_plan.pdf	x	
Description of	Trainer Per step, explicatives sheets Actors sheet Roles for competition	BPMN.png BPMN.bpm Sheet_architect.doc Sheet_client.doc Sheet_engineer.doc Sheet_phase_1_client doc Sheet_phase_2_Administration doc Sheet_phase_2_Architect.doc Sheet_phase_3_Architect.doc Sheet1.odt Sheet2.odt Rôles_skills_(French)	x x x x x x x x x x x x	
videoconference		https://play2.bimgame.eu	x	
chat		https://play2.bimgame.eu	x	

Figure 5 - Scenario with professionnals - Liège (Belgium)

3.6   Scenario #6: Test on distant sites
BIM and circularity : crash test

3.6.1   Desired Competences

Collaboration between two distants sites in BIM process with reuse elements

3.6.2   Resources

Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	IFC	ULG_M23_LIRLmodel.ifc	x	
Point cloud	For ARCHICAD (e57 format) For REVIT (rcp format) For AECOSIM (pod format) Play2bimgame	ULG_M23_LIRLAGORA_5CM.e57 ULG_M23_LIRLAGORA_5CM.rcp ULG_M23_LIRLAGORA_5CM.pod https://play2.bimgame.eu	x	x x x
Description of	Actors sheet Call for competition	ULG_M23_sheet.pdf ULG_M23_sheet.pdf	x x	
Clash detection	BIM Vision	BIM Vision Online Setup.exe		x
videoconference	Rocketchat	https://play2.bimgame.eu	x	
chat	Rocketchat	https://play2.bimgame.eu	x	
Process	BPMN	ULG_M23_BIM GAME scenario.png		x

Figure 6 - Experimentation at LIRL school - Bruxelles (Belgium)

<http://bimgame.eu>

3.7   Scenario #7: Circularity and reuse

BIM & sustainability : how introduce circularity and reuse elements in process BIM

3.7.1   Desired Competences

Introduce non-standards reuse elements with modelisation and information in a BIM collaborative process

3.7.2   Resources

Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	IFC	ULG_M24_LIRLmodel.ifc	x	
Point cloud	For ARCHICAD (e57 format) For REVIT (rcp format) For AECOSIM (pod format) Play2bimgame	ULG_M24_LIRLAGORA_5CM.e57 ULG_M24_LIRLAGORA_5CM.rcp ULG_M24_LIRLAGORA_5CM.pod https://play2.bimgame.eu	 x	x x x
Description of	Actors sheet Call for competition	ULG_M24_sheet.pdf	x x	
Clash detection	BIM Vision	BIM Vision Online Setup.exe		x
videoconference	Rocketchat	https://play2.bimgame.eu	x	
chat	Rocketchat	https://play2.bimgame.eu	x	
Process	BPMN	ULG_M24_BIM GAME scenario.png	x	
Catalog of product	Rotor DC	https://rotordc.com	x	
Evaluation of collaboration	BIM Manager sheet	ULG_M24_BIMMANAGER report.pdf		
Evaluation of the test	Online survey of the jury / theme	https://www.wooclap.com/	x	

Figure 7 - ROTOR Site - Bruxelles (Belgium)

3.8   Scenario #8: Circularity and reuse

BIM & sustainability : how introduce circularity and reuse elements in process BIM ? How to check and integrate the model ? Communication in a BIM process

3.8.1   Desired Competences

Introduce non-standards reuse elements with modelisation and information in a BIM collaborative process. Innovativeness and Creativeness based on resources of reused elements.

3.8.2   Resources

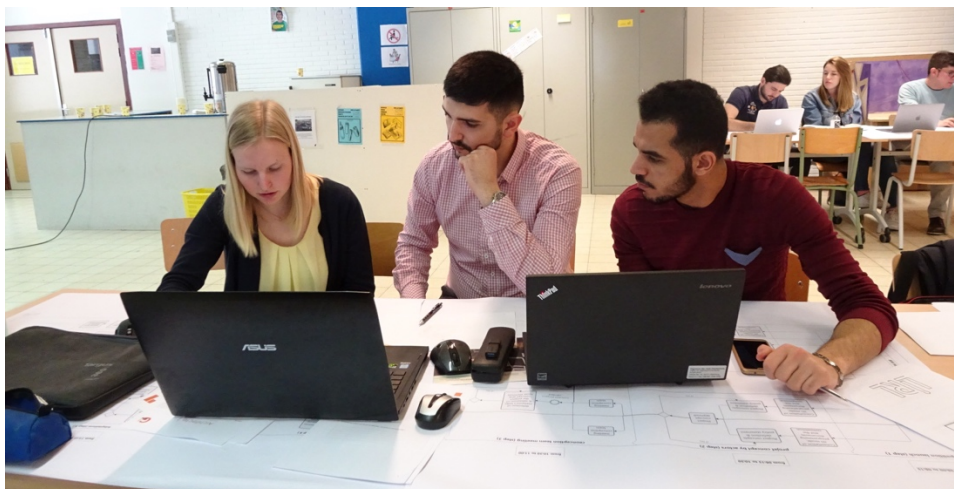| Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	IFC	ULG_M24_LIRLmodel.ifc	x	
Point cloud	For ARCHICAD (e57 format) For REVIT (rcp format) For AECOSIM (pod format) Play2bimgame	ULG_M24_LIRLAGORA_5CM.e57 ULG_M24_LIRLAGORA_5CM.rcp ULG_M24_LIRLAGORA_5CM.pod https://play2.bimgame.eu	 x	x x x
Description of	Actors sheet Call for competition	ULG_M24_sheet.pdf	x x	
Clash detection	BIM Vision	BIM Vision Online Setup.exe		x
videoconference	Rocketchat	https://play2.bimgame.eu	x	
chat	Rocketchat	https://play2.bimgame.eu	x	
Process	BPMN	ULG_M24_BIM GAME scenario.png	x	
Catalog of product	Rotor DC	https://rotordc.com	x	
Evaluation of the test	Online survey of the jury / theme	https://www.wooclap.com/	x	

Figure 8 - Experimentation with students - Bruxelles (Belgium)

3.9   Scenario #9: Errors in model
Scenario 01: finding errors in a 3D-model

3.9.1   Desired Competences

Collaboration in a 3D model, using different techniques to check the quality of a 3D-model, using 3D software to design an architectural model

3.9.2   Resources

Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	Revit	Modell.rvt	x	
Description	Architect 1	A1_task_introduction_architect	x	
	Architect 2	A2_task_introduction_architect	x	
	BIM Coordinator	BC_task_introduction_BIM Coordinator	x	
	Economist	E_task_introduction_economist	x	
	Client	Letter_clients changes to model	x	
	Entry test	scenario_errors in model_entry test	x	
Process	BPMN	171113_BPMN_ScenarioII_W2	x	

Figure 8 - Experimentation with students - Wuppertal (Germany)

3.10 Scenario #10: Duplo
Scenario 02: duplo-scenario - BIM to field approach using RFID and BIM viewers

3.10.1 Desired Competences
Using RFID technology to check the construction progress, working with a BIM viewer on a construction site, using 3D software to design an architectural model

3.10.2 Resources

Type of resource	Name of resource / software	Filename	Tested	Not tested
3D Model	Revit Model of duplo brick	Duplohaus.rvt BUW_Duplostein.rfa	x x	
Description	Duplo Handling Revit Team 1 Team 2 Team 3 Team 4	180830_E_Duplo-Modell-Handling_zl 180830_E_Introduction_DUPLO_Team1_pü 180903_E_Lieferbestätigung_Team1_pü 180830_E_Introduction_DUPLO_Team2_pü 180903_E_Lieferbestätigung_Team2_pü 180830_E_Introduction_DUPLO_Team3_pü 180903_E_Lieferbestätigung_Team3_pü 180830_E_Introduction_DUPLO_Team4_pü 180903_E_Lieferbestätigung_Team4_pü	x x x x x x x x x	

Figure 9 - Duplo with RFID stickers - Wuppertal (Germany)