

SIMULWIND: maintenance **SIMUL**ator for the sustainability of European **WIND** farms Project nº 2017-1-DE02-KA202-004261

Manual

By using the SIMULWIND simulator you accept the license terms and terms of use



The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Co-funded by the Erasmus+ Programme of the European Union



CC BY SA 4.0 by Asociacion Empresarial Eolica

	SIMULWIND
	admin@simulwind.com

	ENTER
This is the screen that will appear once the Simuwind ave file	has been everyted. Here we will be able to enter the username (it must be an email to avoid

This is the screen that will appear once the Simuwind.exe file has been executed. Here we will be able to enter the username (it must be an email to avoid possible duplication) and its password, and then through the ENTER button; to enter the application.

The administrator user is: admin@simulwind.com by default and the password is admin.

SIMULWIND

PERFORM PRACTICE

DEDE	~~~~~~~~~~~~~		CTL	~
PFRF	URM	PRA		
			\sim 11	

PRACTICE MANAGEMENT	PRACTICES AVAILABLE
TOOL, MATERIAL AND PPES MANAGEMENT	Select practice: Select user: Select difficulty:
WIND TURBINE MODEL MANAGEMENT	
USERS	START PRACTICE
ADMINISTRATOR PROFILE admin	
Edit profile	

Once in the control panel of the administrator mode, the screen will show us the navigation options through the different possible configurations that will be described in this manual below. The Side Panel offers information on the main submenus: PERFORM PRACTICE // PRACTICE MANAGEMENT // TOOL, MATERIAL AND PPES MANAGEMENT // WIND TURBINE MODEL MANAGEMENT // USERS. For instance, in the lower left part, the user who is currently operating is shown as the active profile, and there also appears the possibility of editing that profile using the Edit Profile option.

SIMUL**WIND**

PERFORM PRACTICE

DEDEZ			CT1	~ -
PERE	JK M	ΡΚΔΙ		
	21111			

PRACTICE MANAGEME	NT	PRACTICES AVAILABLE					
TOOL, MATERIAL		Select practice:		Select user:		Select difficulty:	
AND PPES MANAGEME	NT	HIGH SPEED SHAFT	~	admin 🗸	~	LOW	~
WIND TURBINE MODEL	L MANAGEMENT	✓ HIGH SPEED SHAFT BLADE TEST	2				
USERS							
		START PRACTICE		✔ IS VR			
ADMINISTRATOR PROFILE	\bigcirc						
Edit profile							

Thus, we begin the tour through every one of the options that the application holds through the PERFORM PRACTICE submenu, which will allow us to configure the practice. As you will be able to notice, in the first place it shows a drop-down with the objective of selecting the practice to perform Select practice. In this example, we have chosen it to be HIGH SPEED SHAFT.

When new practices will be created and included, they will appear as selectable in the drop-down.

SIMUL**WIND**

PERFORM PRACTICE

PERFORM PRACTICE

PRACTICE MANAGEMENT	PRACTICES AVAILABLE			
TOOL, MATERIAL	Select practice:	Select user:	Select difficulty:	
AND PPES MANAGEMENT	HIGH SPEED SHAFT	admin 🗸 🗸	LOW	
WIND TURBINE MODEL MANAGEMENT		✓ admin Joseba Nuria		
USERS		Edu		
	START PRACTICE	✔ IS VR		
ADMINISTRATOR PROFILE	、 			
Edit profile				

Following the same way as in the step before, the Select User option will allow us to access the different user profiles that have been created in the application (keep in mind that we are in administrator mode).

When new users will be created and included, they will appear as selectable in the drop-down.

SIMUL**WIND**

PERFORM PRACTICE

DEDE	~~~~~~~~~~~~~		CTL	~
PFRF	\mathbf{ORM}	PRA		
			\sim 11	

PRACTICE MANAGEMENT		PRACTICES AVAILABLE						
TOOL, MATERIAL AND PPES MANAGEMENT		Select practice:		Select user:		Select difficulty:		
		HIGH SPEED SHAFT	~	admin	~	LOW	,	
WIND TURBINE MODEL MANA	GEMENT					VLOW MEDIUM HIGH		
USERS								
		START PRACTICE		V ISVR				
ADMINISTRATOR PROFILE admin	\bigcirc							
Edit profile								

The third dropdown is where to find the difficulty level, which can be selected in the Select difficulty option, pinpointing there the chosen mode.

In our example: LOW - MEDIUM - HIGH // LOW: Help information in each step, MEDIUM: Information panels at the beginning and end of the step, HIGH: No information help panels. In fact, the times between steps are even reduced to compute as an error and skip help, to add more difficulty.

SIMUL**WIND**

PERFO

PRACT

TOOL, N

WIND

USERS

ADMINISTR

Edit profile

PRACTICE MANAGEMENT

CE MANAGEMENT	HIGH SPEED SHAFT	TOTAL EXERCISES: 3	ø	
NATERIAL ES MANAGEMENT	BLADE TEST	TOTAL EXERCISES: 1	Ø	
URBINE MODEL MANAGEMENT				

The practices that have been loaded and that are currently available are located in the second submenu of the PRACTICE MANAGEMENT side panel. In addition, this will allow us to edit a specific practice, delete it, or even create a new one.

In our example we can observe the HIGHT SPEED SHAFT practice, as well as another BLADE TEST.

simul ŵĩnd			
PERFORM PRACTICE	NEW PRACTICE		BACK TO LIST
PRACTICE MANAGEMENT	DATA		
TOOL, MATERIAL AND PPES MANAGEMENT	Practice Name Practice Name	Explanatory video: SELECT VIDEO	
WIND TURBINE MODEL MANAGEMENT	Initial EPIS text	No video selected	
USERS			
	Initial Practical Text		
	initiai Practicai lext		
ADMINISTRATOR PROFILE admin			
Edit profile			SAVE

As we continue with the exploration of the possibilities offered by Simulwind, this screen shows us the result of had taken the decision of creating a new practice on the previous screen: Create new practice. As it can be seen, this step allows us to define a title for the practice, a text with the initial EPIS and an explanatory text of the technical development of it. On the right we can select an input video if we want the user to see it at the start of the exercises. What's more, a marking has been enabled by sight to automatically make the practice active when finished (which will mean that it will be selectable for users, or failing to keep it deactivated while we work on building and configuring it).

simul**wînd**

ADM

Edit pr

DEOBMPRACTICE	HIGH SPEED SHAFT		BACK TO LIST
IACTICE MANAGEMENT	DATA ELEMENTS EXERCISES	TUTORIALS	
IOL, MATERIAL ID PPES MANAGEMENT	Practice Name HIGH SPEED SHAFT	Explanatory video:	
IND TURBINE MODEL MANAGEMENT	Initial EPIS text	practica I/video@ractica.mp4	
ers	<pre><color=#ffff00>MAINTENANCE ROOM: </color=#ffff00></pre>		
	Initial Practical Text YOU HAVE FINISHED SUCCESSFULLY		
			SAVE

When selecting the option edit practice (you'll be able to find the icon on the right side of the previous slide (page 6 of 80)), this screen appears. First of all, we find the DATA tab, which contains the descriptions, video and activation option that we have described in the previous slide (page 7 of 80), and that come from what is indicated in the creation of the practice.

We can modify all these fields at will when finding ourselves on this screen.



Here we find ourselves dealing with the ELEMENTS tab, in which we can configure the elements that will participate in the development of the practice. As a secondary menu we can see the different types of elements that have been previously contemplated. These are: TOOLS - MATERIALS - PPES - MODEL OBJECTS - TELETRANSPORTATION. Each of those which have been mentioned has its own elements, and, as its name indicates, they will serve for developing each particular purpose. It should be noted that in each element two icons have been added, one to be able to edit the element and another one to be able to eliminate it from the practice that we are creating. Also, on the right side we can add objects (they can be found in the TOOL, MATERIAL AND PPES MANAGEMENT submenu). (See next slide).

SIMUL WIND **HIGH SPEED SHAFT** PERFORM PRACTICE ELEMENTS TUTORIALS DATA **EXERCISES** PRACTICE MANAGEMENT MATERIALS TOOL MATERIAL AND PPES MANAGEMENT WIND TURBINE MODEL MANAGEMENT \sim Paint pot USERS Grease YES YES SAVE ADMINISTRATOR PROFILE admin Edit profile

Once located in the MATERIALS tab, whose operation is exactly the same as that of the TOOLS, we can go deep into the configuration of a new object (right side ADD OBJECT, where we will have selected the object to configurate that already exists), and we can also precise to Simulwind if this object is mandatory (the user will not be able to leave the maintenance room without him selected) Mandatory Object (its interaction is necessary in the development of the practice). If we want, we can make the object to be hidden (for example to increase the level of difficulty, or maybe for other reasons), and we can also indicate if this object is duplicated in the wind turbine. We must save the changes we have made once the new element is parameterized.

SIMULWIND **HIGH SPEED SHAFT** PERFORM PRACTICE DATA ELEMENTS **EXERCISES** TUTORIALS PRACTICE MANAGEMENT PPES TOOL MATERIAL AND PPES MANAGEMENT WIND TURBINE MODEL MANAGEMENT USERS SECURITY HARNESS SAFETY HELMET SECURITY BOOTS YES NO YES 🗸 NO CII YES ADMINISTRATOR PROFILE FALL ARREST 14

The PPES tab works exactly in the same way as what has already been indicated in the previous ones.

SIMULWIND **HIGH SPEED SHAFT** PERFORM PRACTICE ELEMENTS TUTORIALS DATA **EXERCISES** PRACTICE MANAGEMENT MODEL OBJECTS TOOL MATERIAL AND PPES MANAGEMENT R ###btn1 WIND TURBINE MODEL MANAGEMENT R \sim ### HierroPolipaste ###btn2 Element visible at the beginning of the practice USERS Ê ###btn3 Ē ###p1_btn4 \square ###_ordenadorCombinadoInt ADMINISTRATOR PROFILE R ### ordenadorCombinado

As we continue our navigation through the Simulwind options in the MODEL OBJECTS tab, we find the object library. This option allows us to design, create, interact and / or visualize in the main option WIND TURBINE MODEL MANAGEMENT.

This is the place where we must load the elements that we want to use later in the simulator. We see in the right-side panel, as always, the option to add a new element, and indicate if we want it to be visible at the beginning of the practice. We also have to save the changes with SAVE.

SIMUL**WIND HIGH SPEED SHAFT** PERFORM PRACTICE ELEMENTS TUTORIALS DATA **EXERCISES** PRACTICE MANAGEMENT TELEPORTATION TOOL, MATERIAL AND PPES MANAGEMENT \square MAINTENANCE ROOM WIND TURBINE MODEL MANAGEMENT INPUTUP \sim START USERS î **COMPUTER CABINET** $\widehat{}$ WIND TURBINE \square **GO DOWN** ADMINISTRATOR PROFILE LOOK AXLE AND BUSHING

Just like in the previous slide, in the TELETRANSPORTATION tab we can add (of those created through the WIND TURBINE MODEL MANAGEMENT MENU) and delete new teleportation points, which will allow us to move between points within the practice space.

HIGH SPEED SHAFT PERFORM PRACTICE ELEMENTS TUTORIALS DATA EXERCISES PRACTICE MANAGEMENT TOOL, MATERIAL AND PPES MANAGEMENT 囵 **STOP THE WIND TURBINE** TOTAL STEPS: 6 WIND TURBINE MODEL MANAGEMENT R **BREAKING ACTION** TOTAL STEPS: 7 USERS R BLOCKING THE HIGH SPEED TOTAL STEPS: 15 ADMINISTRATOR PROFILE

In the EXERCICES tab we can create, edit, delete and even select the order of the exercises that a practice contains, as well as generate the necessary steps that each exercise requires. On the screen tree sample exercises can be seen within the HIGHT SPEED SHAFT practice: STOP THE WIND TURBINE - BREAKING ACTION - BLOCKING THE HIGH SPEED.

In this screen, the correct order of the exercises can be changed or modified using the arrows.

SIMULWIND

SIMUL**WIND**

HIGH SPEED SHAFT | STOP THE WIND TURBINE PERFORM PRACTICE ELEMENTS DATA EXERCISES TUTORIALS PRACTICE MANAGEMENT DATA STEP LIST TOOL, MATERIAL AND PPES MANAGEMENT Informative Image: SELECT IMAGE STOP THE WIND TURBINE WIND TURBINE MODEL MANAGEMENT No image selected Text information about the exercise Explanatory video: Objective of the exercise STOP THE WIND TURBINE. USERS SELECT VIDEO <color=#ffff00>MAINTENANCE ROOM: </color> No video selected - Select the PPES, MATERIALS and TOOLS needed Final Video: Final text of the exercise SELECT VIDEO CONGRATULATIONS YOU HAVE FINISHED SUCCESSFULLY THE EXERCISE OF STOPPING THE MACHINE. PRESS "ACCEPTAND CONTINUE* IF YOU ARE READY PREPARED TO FOLLOW WITH THE NEXT PRACTISE EXERCISE. No video selected ADMINISTRATOR PROFILE

If we chose Create new exercice in the previous step, we will be redirected to the current screen. As you can see, the different explanatory texts can be edited. There is also the possibility of including images, descriptive videos of the exercise and / or a final video.

simul ŵÎnd								
PERFORM PRACTICE	HIGH SPEED SHA	NFT STOP THE W	IND TURBINE					BACK TO LIST
PRACTICE MANAGEMENT	DATA	ELEMENTS	EXERCISES	TUTORIALS				
TOOL, MATERIAL AND PPES MANAGEMENT	DATA Go the door	STEP LIST		TELEPORT	C	ī	CRE.	
WIND TURBINE MODEL MANAGEMENT	OPEN THE DOOR			INTERACTION	C	ī	↑ -	ł
USERS	Enter the wind turbine			TELEPORT	C	Ī	† -	t
	EQUIP YOURSELF WITH	HPPES		PPES	ľ	Î	† -	r
ADMINISTRATOR PROFILE	PUSH THE CORRECT SV	VICHT SEQUENCE		INTERACTION	ľ	Ī	† -	t
				DDEC	F 2	-	•	

By clicking on any exercise that appears in the screen, the specific actions and their correct order will be established in the STEP LIST tab, using the icons already known to edit, delete and sort.

simul wind	ADMIN	ISTRATOR
PERFORM PRACTICE	HIGH SPEED SHAFT STOP THE WIND TURBINE GO THE DO	DOR BACK TO UST
PRACTICE MANAGEMENT	DATA ELEMENTS EXERCISES TU	TORIALS
TOOL, MATERIAL AND PPES MANAGEMENT	DATA STEP LIST BACK TO STEPS Type of action INTERACTION LOOK COMBINE PPES TELEPORT	Teleport Point
WIND TURBINE MODEL MANAGEMENT	Step name Go the door	WIND TURBINE ACCESS V Type of action V V NEXT STEP PORTAL
USERS	Description step GO TO THE WIND TURBINE ENTRY TO OPEN THE DOOR	Final text step SUCCESS!
	Help text USE TELEPORTATION TO GO THE WIND TURBINE ENTRANCE, YOU WILL RECEIVE INSTRUCTIONS TO COMPLETE THE EXERCISE.	
ADMINISTRATOR PROFILE admin	Informative image Informative video SELECT IMAGE SELECT VIDEO Motorola_hand/heid/pg video/ferramienta.mp4	Warning panel Ambient sound Image: Comparison of the sound
Edit profile		SAVE

If we chose the option to edit one of the steps, we will find out this screen, which states: The type of action (interaction, look, combined object, PPES or teleportation). This choice will serve as a condition to the future operation and interaction of the step.

Here is we can also add explanatory and helping text, as well as images and videos. In the right-side panel, the element will be selected from among those of the chosen category. There can also be selected in this step additional options such as an alarm panel and activate ambient sound during its development.

SIMUL WÎND	ADMIN	ISTRATOR
PERFORM PRACTICE	HIGH SPEED SHAFT STOP THE WIND TURBINE GO THE DO	OOR BACK TO LIST
PRACTICE MANAGEMENT	DATA ELEMENTS EXERCISES TU	TORIALS
TOOL, MATERIAL AND PPES MANAGEMENT	DATA STEP LIST BACK TO STEPS Type of action	NEXT STEP PORTAL Final text step
WIND TURBINE MODEL MANAGEMENT	Step name Go the door Description step	SUCCESS!
USERS	GO TO THE WIND TURBINE ENTRY TO OPEN THE DOOR	✓ Warning panel
	Help text USE TELEPORTATION TO GO THE WIND TURBINE ENTRANCE. YOU WILL RECEIVE INSTRUCTIONS TO COMPLETE THE EXERCISE.	Ambient sound Activate ambient sound Count when 00,0000
ADMINISTRATOR PROFILE admin	Informative image Informative video SELECT IMAGE SELECT VIDEO Abstancia_hand-heldjag video/Herramienta.mp4	search volume (3/100) mar 22
Edit profile		SAVE

This slide is exactly in the same as what has already been seen in the previous ones: on the right side (lower part sliding the sidebar) it shows the setting of the ambient sound between the preloaded ones, as well as its volume. We can also select if we want it to be done once finished.

	SIMUL WÎND	ADMINISTRAT	
PAILTRE MANAGEMENT DATA LEMENTS DERCISES TUTORIALS	PERFORM PRACTICE	HIGH SPEED SHAFT STOP THE WIND TURBINE	BACK TO LIST
TOOL MITERAL AND PPES MANAGEMENT UNERS INTERACTOR PROFILE AbbeitsTERACTOR PROFILE AbbeitsTERACTOR PROFILE AbbeitsTERACTOR PROFILE AbbeitsTERACTOR PROFILE	PRACTICE MANAGEMENT	DATA ELEMENTS EXERCISES TUTORIALS	
	TOOL, MATERIAL AND PPES MANAGEMENT	BLOCK HIGH SPEED SHAFT	
USERS	WIND TURBINE MODEL MANAGEMENT		
ADMINISTRATOR PROFILE admin	USERS		
ADMINISTRATOR PROFILE admin			
Edit profile	ADMINISTRATOR PROFILE admin		

SIMUL**WIND**

	HIGH SPEED SHAF	BACK TOLIST			
	DATA	ELEMENTS	EXERCISES	TUTORIALS	
PRACTICE MANAGEMENT					
TOOL, MATERIAL AND PPES MANAGEMENT	NEW TUTOBAL Tutorial Name				
WIND TURBINE MODEL MANAGEMENT	Tutorial Name				
USERS	Tutorial text				
	Tutorial Image:	Video-tutorial:			
ADMINISTRATOR PROFILE admin	SELECT IMAGE	SELECT VIDEO			
Edit profile					SAVE

Here we enter the screen whose duty is to create a new tutorial, being able to edit text, images and / or videos.

SIMUL**WIND**

	HIGH SPEED SHAF	т			BACK TO LIST
PERFORM PRACTICE	DATA	ELEMENTS	EXERCISES	TUTORIALS	
PRACTICE MANAGEMENT					
TOOL MATERIAL	BLOCK HIGH SPEED SHAFT				
AND PPES MANAGEMENT	Tutorial Name				
WIND THRBINE MODEL MANAGEMENT	BLOCK HIGH SPEED SHAFT				
WIND TORDINE MODEL MANAGEMENT	Tutorial text				
USERS	Lorem ipsum dolor sit amet consect etiam tristique, penatibus et incept	etur adipiscing elit, vivamus aptent lit os vitae porttitor per, purus cum quisq	pero phasellus curabitur vehicula duis le ue odio dictum nisi.	eo, tristique aliquam pretium tempor et	iam volutpat. Nulla dictumst fusce euismod mi semper
	Tutorial Image:	Video-tutorial:			
	SELECT IMAGE				
ADMINISTRATOR PROFILE	No image selected	turbineWark.mp4			
Edit profile					SAVE

Once a tutorial has been created, we can edit it later with the options that we already know.

SIMUL**WIND** MATERIAL, TOOL AND PPE MANAGEMENT PERFORM PRACTICE TOOLS MATERIALS PPES PRACTICE MANAGEMENT TOOL, MATERIAL AND PPES MANAGEMENT WIND TURBINE MODEL MANAGEMENT USERS CALIPER LEVER BRUSH WALKIETALKIE HEX WRENCH SET ADMINISTRATOR PROFILE COMPUTER + RJ45 MEASURING TAPE COMPUTER COMPUTER PROGRAMS 2

Moving to the left-sided submenu TOOL, MATERIAL AND PPES MANAGEMENT you will be able to add, edit and / or delete items in each category. TOOLS, in the current example.

SIMULWIND

MATERIAL, TOOL AND PPE MANAGEMENT

PERFORM PRACTICE						
PRACTICE MANAGEMENT	TOOLS	MATERIALS	PPES			
	NEW TOOL					BACK TO LIST
TOOL, MATERIAL AND PPES MANAGEMENT	Object Name:				FBX Object	
	Object Name:					
WIND TURBINE MODEL MANAGEMENT	Object Description					
USERS	Object Description					
	Informative Image:	Explanatory video:	ROTATION OF THE HANDLED OBJE	ст	SELECT FBX	
	SELECT IMAGE	SELECT VIDEO	0 0	0	Prámetros obligatorios: (Varias opciones separar con ;)	
	No image selected	No video selected			Required parameters: (Several options separate with;)	
ADMINISTRATOR PROFILE	Combinable Object:					
	YES 🖌 NO					
					SAVE	
Edit profile						

Here we can see an illustration of the way of creating a NEW TOOL, to highlight that apart from the typical texts, image and video, you can also select the rotation of the object in human hand to match the logical centre of it, using the coordinates X, Y, Z.

On the right side, the FBX file necessary for the inclusion of the new element can be acquired. Finally, you must specify whereas the element is combinable with another or not (so that it appears in the drop-down options to combine elements and can be edited individually).

SIMUL**WIND**

MATERIAL, TOOL AND PPE MANAGEMENT

PERFORM PRACTICE						
PRACTICE MANAGEMENT	TOOLS	MATERIALS	PPES			
	NEW TOOL COMPUTER				BACK TO LIST	
AND PPES MANAGEMENT	Object Name:			FBX Object	Combined Object:	
	Computer					
WIND TURBINE MODEL MANAGEMENT	Object Description					
USERS	Lorem ipsum dolor sit amet c tristique aliquam pretium ten et inceptos vitae porttitor per	onsectetur adipiscing elit, vivamus apt npor etiam volutpat. Nulla dictumst fu r, purus cum quisque odio dictum nisi.	tent libero phasellus curabitur vehicula duis leo, isce euismod mi semper etiam tristique, penatibus			
	Informative Image:	Explanatory video:	ROTATION OF THE HANDLED OBJECT	SELECT FBX	Computer + RJ45 🗸	
	SELECT IMAGE	SELECT VIDEO	0 0 0	_		
	No image selected	No video selected	x y z	The combined object is the same		
MINISTRATOR PROFILE	Combinable Object:	Combine with:	Combine with:			
	YES NO	🖌 Tool 📃 Material	RJ45 🗸 🗸			
					SAVE	
t profile						

Here we find an illustrative screen of the options if it has been selected to be a combinable object, if it is combined with a tool or a material and with which another element it can be combined. On the right we can see both the element we want to combine and its combination partner.

SIMUL**WIND**

MATERIAL, TOOL AND PPE MANAGEMENT

PERFORMPRACTICE							
PRACTICE MANAGEMENT	TOOLS	MATERIALS	PPES				
	NEW TOOL COMPUTER						ACK TO LIST
TOOL, MATERIAL AND PPES MANAGEMENT	Object Name:				FBX Object	Combined Object:	
	Computer						
WIND TURBINE MODEL MANAGEMENT	Object Description						
USERS	Lorem ipsum dolor sit amet co tristique aliquam pretium terr et inceptos vitae porttitor per	onsectetur adipiscing elit, vivamus api ipor etiam volutpat. Nulla dictumst fu , purus cum quisque odio dictum nisi.	tent libero phasellus curabitu sce euismod mi semper etiam	vehicula duis leo, tristique, penatibus			
	Informative Image:	Explanatory video:	ROTATION OF THE HAND	LED OBJECT	SELECT FBX	Computer + RJ45	~
	SELECT IMAGE	SELECT VIDEO	0 0	о		WalkieTalkie CALIPER	
	No image selected	No video selected	x	z	The combined object is the same	Lever HEX WRENCH SET	
MINISTRATOR PROFILE	Combinable Object: C	ombine with:	Combine with:			PAINT Pliers	
		Tool Material	RJ45	~			
						SAVE	

Here we have an illustrative screen of the drop-down commented above (selectable combined elements).

SIMUL**WIND**

MATERIAL, TOOL AND PPE MANAGEMENT

PERFORM PRACTIÇE							
PRACTICE MANAGEMENT	TOOLS	MATERIALS	PPES				
	NEW TOOL WALKIETALKIE						BACK TO LIST
AND PPES MANAGEMENT	Object Name:					FBX Object	
	WalkieTalkie						
WIND TURBINE MODEL MANAGEMENT	Object Description						
Users	WalkieTalkie						
	Informative Image:	Explanatory video:	ROTATION OF THE	HANDLED OBJEC	т	SELECT FBX	
	SELECT IMAGE	SELECT VIDEO	90	o	о	Prámetros obligatorios: (Varias opciones separar con ;)	
	Matarala, hand heldjig	videoHerramienta.mp4				Required parameters: (Several options separate with;)	
IDMINISTRATOR PROFILE	Combinable Object:						
	YES 🖌 NO						
						SAVE	
idit profile							

Once an item has been created, it can be edited later following the steps shown on this slide.

SIMULWIND MATERIAL, TOOL AND PPE MANAGEMENT PERFORM PRACTICE TOOLS MATERIALS PPES PRACTICE MANAGEMENT TOOL, MATERIAL AND PPES MANAGEMENT WIND TURBINE MODEL MANAGEMENT USERS GREASE CI ADMINISTRATOR PROFILE Here we show you an illustration of the MATERIALS tab, which works and is configured exactly the same way as the TOOLS tab.

SIMUL**WIND**

MATERIAL, TOOL AND PPE MANAGEMENT

PERFORM PRACTICE							
PRACTICE MANAGEMENT	TOOLS	MATERIALS	PPES				
	NEW MATERIAL						BACK TO LIST
AND PPES MANAGEMENT	Object Name:					FBX Object	
	Object Name:						
WIND TURBINE MODEL MANAGEMENT	Object Description						
USERS	Object Description						
	Informative Image:	Explanatory video:	ROTATION OF THE	HANDLED OBJE	ECT	SELECT FBX	
	SELECT IMAGE	SELECT VIDEO	o	o	o	Prámetros obligatorios: (Varias opciones separar con ;)	
	No image selected	No video selected				Required parameters: (Several options separate with;)	
DMINISTRATOR PROFILE	Combinable Object:						
	YES 🖌 NO						
						EN E	
it profile						34VE	

Here we show you an illustration of the screen where to create a new material. Identical operation as the one that has previously been mentioned in TOOLS.

SIMUL**WIND**

MATERIAL, TOOL AND PPE MANAGEMENT

PERFORM PRACTICE						
PRACTICE MANAGEMENT	TOOLS	MATERIALS	PPES			
						BACK TO LIST
TOOL, MATERIAL AND PPES MANAGEMENT	Object Name:				FBX Object	
	Paint pot					
WIND TURBINE MODEL MANAGEMENT	Object Description				r Quino th	
USERS	Lorem ipsum dolor sit amet con tristique aliquam pretium temp et inceptos vitae porttitor per, p	nsectetur adipiscing elit, vivamus ap xor etiam volutpat. Nulla dictumst fu xurus cum quisque odio dictum nisi.	tent libero phasellus curabitur vehi sce euismod mi semper etiam trist	icula duis leo, ique, penatibus		
	Informative Image:	Explanatory video:	ROTATION OF THE HANDLED O	OBJECT	SELECT FRX	
	SELECT IMAGE	SELECT VIDEO	0 0	o		
	No image selected	No video selected	× ×	z		
ADMINISTRATOR PROFILE admin						SAVE
Here we show you an illustration	n of the screen where	to edit a material. Io	lentical operation a	as the one that	t has previously been mentic	

SIMULWIND MATERIAL, TOOL AND PPE MANAGEMENT PERFORM PRACTICE TOOLS MATERIALS PPES PRACTICE MANAGEMENT TOOL, MATERIAL AND PPES MANAGEMENT WIND TURBINE MODEL MANAGEMENT USERS SAFETY HELMET SECURITY HARNESS LANYARD FALL ARREST SECURITY BOOTS NEEWWWWWWW ADMINISTRATOR PROFILE Here we show you an illustration of the PPES tab. Identical operation as the one that has previously been mentioned in TOOLS.

SIMUL**WIND**

MATERIAL, TOOL AND PPE MANAGEMENT

PERFORM PRACTICE						
PRACTICE MANAGEMENT	TOOLS	MATERIALS	PPES			
	NEW PPE SAFETY HELMET					BACK TO LIST
AND PPES MANAGEMENT	Object Name:				FBX Object	
	SAFETY HELMET					
WIND TURBINE MODEL MANAGEMENT	Object Description					
USERS	The main objective of the safety i shock. It can also protect against	helmet is to protect the head of those other risks of a mechanical, thermal or	who wear it from danger and mec electrical nature.	hanical		
	Informative Image:	Explanatory video:	ROTATION OF THE HANDLED OBJ	IECT	SELECT FBX	
	SELECT IMAGE	SELECT VIDEO	o 0	o		
	Motorola_hand heidipg	VIDEO-LHSS-03mp4	x y	z		
Idministrator Profile					I	SAVE

Here we show you an illustration of the screen where to create a new PPES. Identical operation as the one that has previously been mentioned in TOOLS.

LOADING...



WAIT FOR A FEW SECONDS WHILE THE SCENE IS LOADED

As we continue with our exploration placed in the main menu, we may select the option WIND TURBINE MODEL MANAGEMENT. Here the program will load the specific application to edit the wind turbine.



The wind turbine that serves as an example will appear in a few seconds (depending on the technical characteristics of the PC currently been used). With the options at the top of the screen.



The PLAYER option allows us to configure the vision mode to facilitate the work of creation or manipulation of the elements. So, the MOVE OFF option is showing us that we are seeing our environment with the right mouse button (3D version), but if we activate it, it will move to MOVE ON (see next slide) and then it will not allow us to perimeter movement. Also in this picture, we find the CAMERA POINT LIST option that is a list of points created to move immediately to them without having to go all the way long, which will fastener the solution of problems in different points.



Here we show you an illustrative screen of the MODE ON that we have mentioned in the previous slide.


Here we show you an illustrative screen of the CAMERA POINT LIST that has just been discussed above.



As we continue with our navigation through the application, we display the options of the TELETRANSPORTATION POINTS tab. The first option of the pop-up submenu on the left is to create a new teleportation point.



In the following function we can choose a dynamic object from the drop-down LIST OF DYNAMIC OBJECTS.



We can also search for a specific object with the SEARCH OBJECT option.



If we decide to enter the option MAIN LIST OBJECTS by clicking on it, we will be able to see the logical tree of folders containing objects and super-objects (object that represent a set of objects). The folders where the object files are included are pinpointed in blue.

SIMUL WIND	PLAYER Netw courses U	it or own.	OBJECT	 -12.00		ATION PO	INTS	ust o	F REMOVED CREECTS	ł	ENTERAL DESC	n 4	unaller.	HELP	
	MAIN LIST OF	SJECTS	aspa_optimiza da_004	3	aspa_optimiza da_007	3	aspa_optimiza da_008	8	cabeza	€ €	cubierta Ventil azion	N			
	ChapaArribaC ubierta	3	ChapaSueloAr riba	3											
	e Retur	i Lecti N										@@@_exteri	*/		

In this illustration the final objects appear in orange whereas the subsets of objects do so in blue.



In order to facilitate the edition of the elements, a deleted element can be recovered (it will appear in the drop-down LIST OF REMOVED OBJECTS.)



With the EXTERNAL OBJECTS option, objects from the outside can be directly imported.

	PLAYER OBJECT TELEPORTATION POINTS	HELP RETUI
IVINO TUNIZINE MODEL MANAGER		
		\odot
	HELP ON THE MODEL MANAGER	
	Bacom igsam do araitemet persentatur adigincing olit, sed de olusmod temper i seldiduet ut labaco et Balore megae a igua. Ut e sian stimicim ve sleve, quis nostrud exemitation v lamoc laboris nisi ut a iguig ex es com mobo conseguat. Duis auto irure do or in regrefienderit in volugita vel tesse di lum do ore ou fugit nulla garlatur. Excegteur int occaecat zagidantet non graident sunt is cuiga qui officia desenat molt anim illant labore.	
	Excess igs and the sait ament, consected to adjusting elit, and the december of suble at a tables of the sait gene of the sait s of eliminane share, guis meet to advect the sait of the s	
	Borem la sum do or sitemet, sonsectetur adipissing elit, red do elusmodi tempor incididunt ut labore et Solore magna a igus Ut enim să minim veniam, quis nostruă exercitation u lamac labore alui at a iguig un ca com molt u onnegant. Bu'n vote hans di or la regenterident în vul agente veltemec di lam Eu ore nu fagist nulle genieter. Ence genur sint ecuaceat sugidatat non groldent sunt în culza qui officia deservat molt enim lă ast la scrum.	
	laten is an de arsitement, seesandets : aligisaleg elit, sed de eleaned tanget i seliditant ut lebres at folor: mag as a igus. Ut anim : facien varie a, quis nostral exemitation u lemec lebris si i et siguip as ce com mob conseguet. Duis auteristation i negelenderit in volugate selt esse el lum do ore su fogist nulle prints. Exceptent sint eccepte angliant mon graïdent seut la color qui efficia desenation il sente lateran. Rorem ignore do si tente, sec du e lebre et dolore arsigne alleve. Ut elem a famini un sint alla secte lateran. Rorem ignore caberta se allem do consecutor do si in regelenderit in lebre et dolore aragen alleve. Ut elem a famini sentera, quis nostra d'avectation alleve a commot se conseguet Duis auterista do si in regelenderit in	
	wolugiste weit esse uit an Boiore au tagist nu la gesistat. Excepteur sint occase at augist ain na policieri, sunt in aug gu a Micia Seserunt moi it seim 10 est. Thoram na ma Boiore au tamest, canacatatur riligiscing a li, señ die ainmeñ teangor reidiount al abore et ander et au tagist a sunt aint au tagist a sunt aint au tabar et a boren tagist aint au la uu ge se a com moior o canaguat. Buis sut i name Boior in perele na baint at la Bore et agusta ai sunt a graident, sant in calgu gui efficia deserant moilit anim it est la Bore er ligar en dia consentator a distribute di au gui ge se attribute di au tagist de se ander a sunt ai tagist a sunt ai a sunt est a sunt ai sunt de se a sunt ai sunt est a Bore est agust au tagist a sunt ai a sunt est a sunt a sunt est a sunt ai a sunt est a sunt ai a sunt est ander a sunt ai a sunt est ander a sunt ai a sunt est ander a sunt ai a sunt est a sunt ai a sunt est ander a s	
	magna silgua. Uten m af miaim wen sm. guis sostrub sercitato su la mancia bolis si silguiges es commado conseguat. Unis ste irus do osin seguate de utente e it este cullam do ome eu bagista si a partista. Excepter sint osceracia projetent, sur el su si si a facilitato si a interesti a si a soste intereste e il soste intereste e il soste intereste e il soste intereste e il soste e utente de utente de utente de utente e a soste a soste e a sost	
	a be an inded tet mag bet bis a been mit gemeinten in the spectrum wat in our or of the part of the part of the tet tet tet tet tet tet tet tet tet	
	consequet. Duis suit incle Bolor in reprefendent in volugiable wellt esse cillum Bolore eu hugiat nu la paristar. Excepteur sint occasecet cupitstat non proident, sant in su pe pui officia discunant ma il tra imi de al situant. Lonem igsam Bo arsit amet, consectatur adigiscing elit, sed de elusmod tempor i soldidunt ut labore et Bolore magna a igur. Ut en im să minim veniem, quis nostruă exercitation o lamec labote nici ut a iguig ex ex com mobe conseguat. Duk auce forst do oi negetendentic in volugent e velt exac di lum ĉo ora su hugist sult a ulta paristat. Excepteur sint consecut neget a sulta ele paristat. Excepteur de la consecut sulta ele paristat non proident, sunt consecut sulta ele paristat. Excepteur sulta negitatat negraficat sulta e algo paristicat a sulta ele forst do oi negetendentic in volugente velt exac el lum ĉo ora su hugist sulta paristat. Excepteur sint acesecat anglitatat negraficat sulta e algo paristicat negraficate neg	
	Farmer ignam de maitamet, seesstern adigiseing eit, sed de eissmed tranger incidide et et labore et feiere magna a igne. Ut en im starien se airm, gais nostrell esseriation e lamee labore histet suige see com modo conseguat. Du's sube inte do or in regrebenderit in volugate velt esse ci um do ore su fugist nulle periatur. Excepteur sint occessat zagidatet non graident suot in culga gei officia decercatamo it anim id act labore m.	
	Eorem: igram de or sitamet, sonsectetur adigissing elit, red de elusmost tempor incibildunt ut labore et Solore magna a igus Ut en in s5 minim ve niam, guis nostruð exercitation n innes laborh minista ignig az za som moð nomens son Born in regenderðinit in valagteta velt exas si lam Ex ore za fugist nella gerinter. Excegten sint seconent suffaste nor svalit est nort i secine en effinis Response to minista son er man	

There will always be a help with editable text available upper right.



Illustration of progress.



Illustration that shows the option of editing a teleportation point that has already been created.



Illustration of progress. The point can be moved or rotated by selecting the corresponding button on the panel, which has been explained before.



Illustration of progress.

ADMINISTRATOR

SIMULWIND

USERS



By returning to the main menu and selecting the USERS option the progress of each user can be edited and tracked.

new user



User Mail		
User Mail		
New Password		
Password		

Illustration of the step known as the creation of a new user. There is also the option to assign administrator profile.

perfil usuario

	User name	
	Edu	STATISTICS
	User Mail	Practices:
	User Mail	Time in the simulator: Oh. Om. Os.
	New Password	
	Password	
	Administrator	
	SAVE	
New user created illustration. Pro	ogress is actually at 0.	

perfil usuario

User name	STATISTICS		
User Mall	Practices: 14		
joseba@simulwind.org	Time in the simulator: Oh.	16m. 17s.	
New Password	SUBIR ASPA 2009/2019 14:51:07	Oh: 1m. 7s. ACCESSES: 0 FAULTS: 0	FACIL
Password			
Administrator	23/08/2019 14:57:14	Oh. Om. 46s. ACCESSES: 0 FAULTS: 0	DFICL
SAVE	SUBIR ASPA 23/08/2019 15:00:41	Oh. 1m. 10s. ACCESSES: 0 FAULTS: 5	DIFICE
	Ouick shaft		
	26/08/2019 15:05:08	ONLUM. 402. ACCESSES: 0 MOLTS: 0	PACE
	Quick shaft	Oh. 1m. 27s. ACCESSES: 0 FAULTS: 0	FACL

Here we can see an example of a user who has performed several practices, and from the administrator mode you can see the average time in each exercise, the level that has been chosen and the mistakes that he made.

perfil usuario

User name admin	statistics								
User Mall admin@simulwind.com	Practices: 82 Time in the simulator: 3h. 7m. 18s.								
New Password Password	Eje rápido Oh. 15m. 30s. ACCESSES: 5 FAULTS: 3 BAJA								
Administrator	Eje rápido Oh. 15m. 30s. ACCESSES: 5 FAULTS: 3 BAJA 10-7/2019								
SAVE	Quick shaft Oh. Om. 34s. ACCESSES: 0 FAULTS: 1 MEDIA 26/08/2019 15:45:59								
	Quick shaft Oh. Om. 40s. ACCESSES: 0 FAULTS: 0 MEDIA 26/08/2039 15:46:42								
	Quick shaft Oh. Om. 38x ACCESSES: 0 FAULTS: 0 FACL								

Another illustrative example. This one is showing the administrator mode.

LOADING...



WAIT FOR A FEW SECONDS WHILE THE SCENE IS LOADED

Returning to the main screen (see slide 2) and selecting the option IS VR, it is possible to define if we have and we will use a virtual reality equipment. If we uncheck it, we will enter 3D mode, by clicking on START PRACTICE.

This standby screen will appear in a few seconds (depending on the technical characteristics of the PC currently been used).



ADMINISTRATOR

PRACTICE ID: 1 EXERCISES: 3 / TOTAL STEPS: 28

NAME: HIGH SPEED SHAFT



Thus, we will enter the maintenance room, which will be fixed for every exercise and practice. Here is where we can equip ourselves to start the exercise. Depending on the level of difficulty, more or less indications will appear at this point (as we have previously configured).



Illustration of progress.



In the upper right part, in the icon with the arrows, the epigraph will appear with the buttons (3D option) that will allow us to move through the practice and its associated exercises.



Illustration of progress.



By clicking on each option, the list of Equipped Materials (in this case) will appear on the pop-up screen.



In the same way that we have already seen, and also in its position, the list of tools equipped.



In the same way that we have already seen, the list of loaded PPES.



Exploring the maintenance room, we will be able to see the table where we can equip ourselves.

If we enter it by clicking, we will see the PPES, as well as the option to load (equip). Additionally, there is an extra information button (which will contain the previously loaded text or multimedia information).

The same for the list of tools.

The same for the list of materials.

Illustration of progress (closer)

By exploring the maintenance room, we will find the tutorials that we have created previously. They will represent a personalized help for each desired activity.

Once we have equipped ourselves, we will go to the teleportation point of the maintenance room. There is shown that due to the realization of this practical example we are not yet well equipped. We must include the PPES, materials and tools that we need to carry out in a convenient way the practice and its exercises (the first one in this example).

Once Simulwind recognizes that we are well equipped for the task to be done, the app itself will indicate it with a pop-up screen. These are the MANDATORY OBJECTS of the administrator.


Once equipped, when we go to the teleportation point it will already appear in green and will allow us to teleport ourselves to the wind turbine.



Illustration of progress.



When we find ourselves in the wind turbine: at the top we will have progress data, as well as lists of PPES materials and tools preloaded in the maintenance room that have been selected.



Illustration of progress.



Illustration of progress.



Illustration of progress. As it can be seen, Simulwind is guiding us and providing us with the images, videos and help that we have previously uploaded.



We will also have the same help where the basic information to move is to appear.





Illustration of progress. As it's to be seen, the materials, PPES and tools that we need in each action can be used from the preloaded list in the maintenance room.

Simulwind has an example practice with three preloaded exercises.