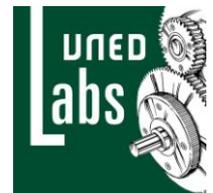


Módulos EJSApp

Integración de laboratorios
virtuales y remotos en Moodle

Luis de la Torre Cubillo
Rubén Heradio Gil



¿Qué es Moodle?



- Sistema de Gestión del Aprendizaje (LMS)
- Recursos y herramientas para cursos online: registro de usuarios, control de acceso, foros, actividades, evaluaciones...
- Gratuito
- Código abierto
- El LMS más utilizado en todo el mundo (65 millones de usuarios registrados)

¿Qué son los plugins?



- Extensiones creadas por los usuarios
- Añaden funcionalidades y características que no incorpora el programa base
- Gratuitos y de código abierto
- Más de 400 plugins descargables desde la página oficial de Moodle
- Varios tipos: actividades, recursos, repositorios, bloques, filtros, etc.



Cuatro módulos para integrar laboratorios virtuales y remotos, creados con EJS, en Moodle

Actividad:

- EJSApp
- EJSApp Booking System (EJSApp BS)

Bloques:

- EJSApp File Browser (EJSApp FB)
- EJSApp Collab Sessions (EJSApp CS)



EJSApp BS



- Controlar el acceso a laboratorios remotos

EN-English

Make a booking

My bookings

Select date and plant

December 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
48						1
49	2	3	4	5	6	7
50	9	10	11	12	13	14
51	16	17	18	19	20	21
52	23	24	25	26	27	28
01	30	31				

Remote Laboratory of Springs' Elasticity

- Remote Laboratory of Springs' Elasticity
- Remote Laboratory of Thin Lenses
- Remote Laboratory of the Three Coupled Tanks
- Remote Laboratory of Light in Isotropic Media
- Remote Laboratory of the Heatflow
- Remote Laboratory of the Servo-Motor
- Lab. Remoto del Sistema de Dos Tanques

EN-English

Make a booking

My bookings

Select date and plant

December 2012

Sun	Mon	Tue	Wed	Thu	Fri	Sat
48						1
49	2	3	4	5	6	7
50	9	10	11	12	13	14
51	16	17	18	19	20	21
52	23	24	25	26	27	28
01	30	31				

Remote Laboratory of the Three Coupled Tanks

Remote Laboratory of the Three Coupled Tanks

Luis de la Torre
ldelatorre@dia.uned.es

Check

Select slots

Date : 30-12-2012 Plant : Remote Laboratory of the Three Coupled Tanks

<input type="checkbox"/> 00:00 - 01:00	<input type="checkbox"/> 06:00 - 07:00	<input type="checkbox"/> 12:00 - 13:00	<input checked="" type="checkbox"/> 18:00 - 19:00
<input type="checkbox"/> 01:00 - 02:00	<input type="checkbox"/> 07:00 - 08:00	<input type="checkbox"/> 13:00 - 14:00	<input type="checkbox"/> 19:00 - 20:00
<input type="checkbox"/> 02:00 - 03:00	<input type="checkbox"/> 08:00 - 09:00	<input type="checkbox"/> 14:00 - 15:00	<input checked="" type="checkbox"/> 20:00 - 21:00
<input type="checkbox"/> 03:00 - 04:00	<input type="checkbox"/> 09:00 - 10:00	<input type="checkbox"/> 15:00 - 16:00	<input type="checkbox"/> 21:00 - 22:00
<input type="checkbox"/> 04:00 - 05:00	<input type="checkbox"/> 10:00 - 11:00	<input type="checkbox"/> 16:00 - 17:00	<input type="checkbox"/> 22:00 - 23:00
<input type="checkbox"/> 05:00 - 06:00	<input type="checkbox"/> 11:00 - 12:00	<input type="checkbox"/> 17:00 - 18:00	<input type="checkbox"/> 23:00 - 00:00

Available Not available The plant is turned on
Occupied Selected

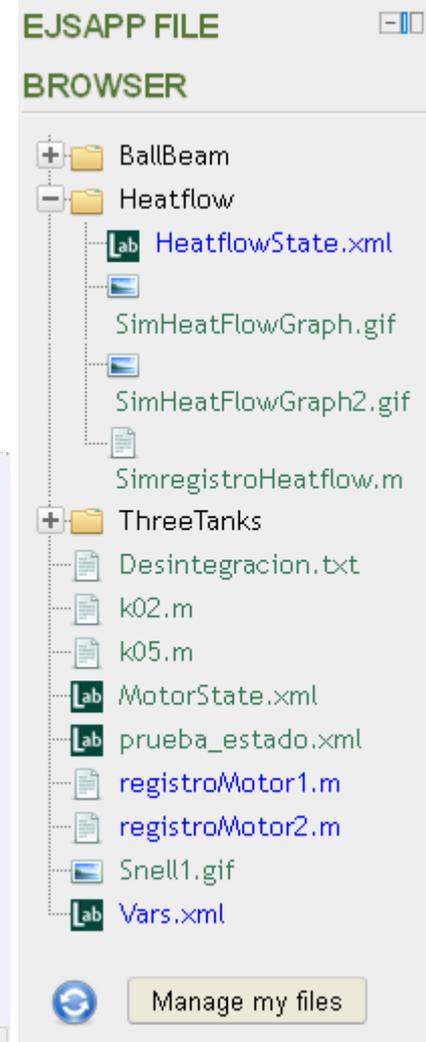
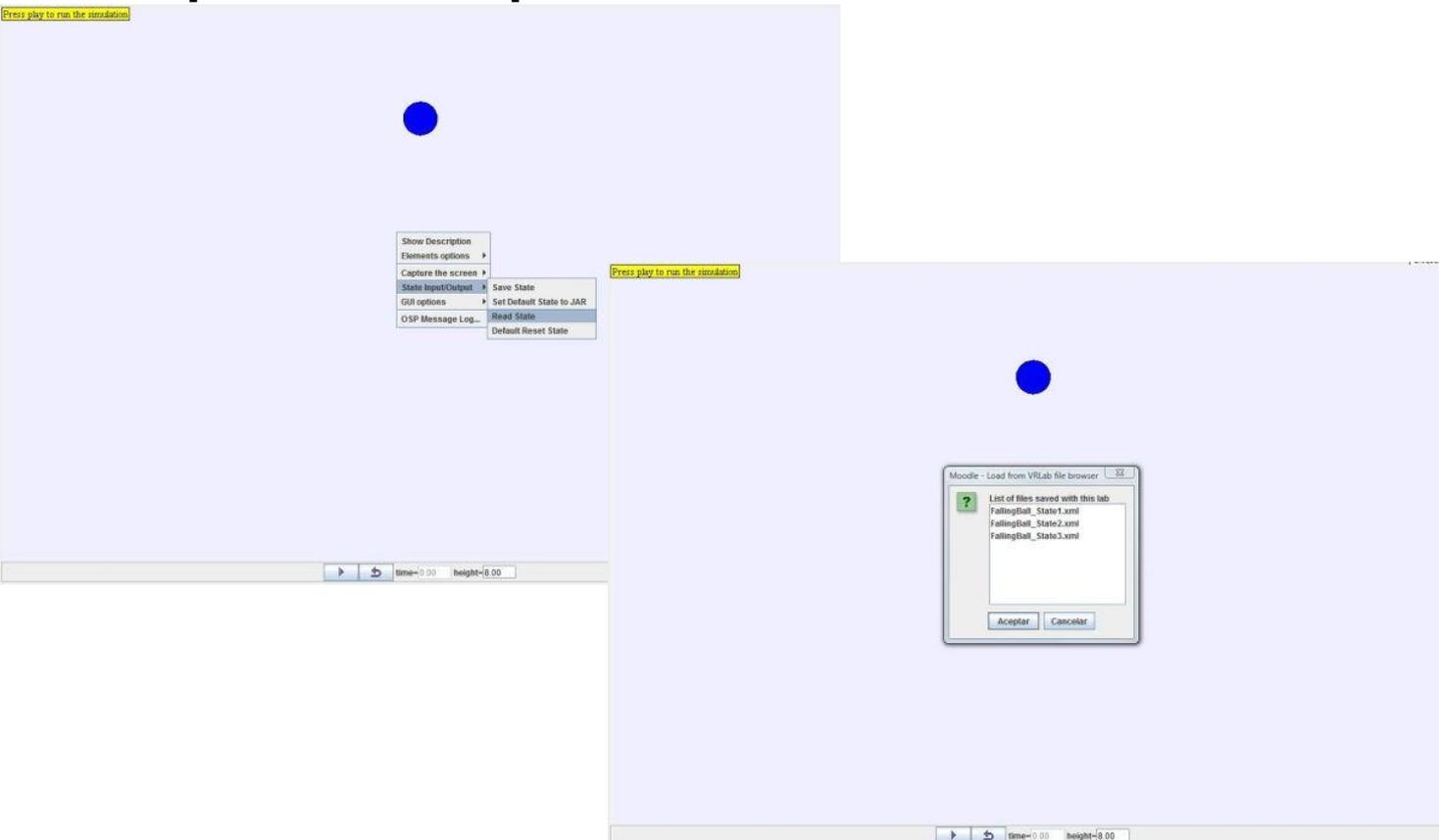
Next



EJSApp FB



- Almacenar ficheros generados por las aplicaciones EJS

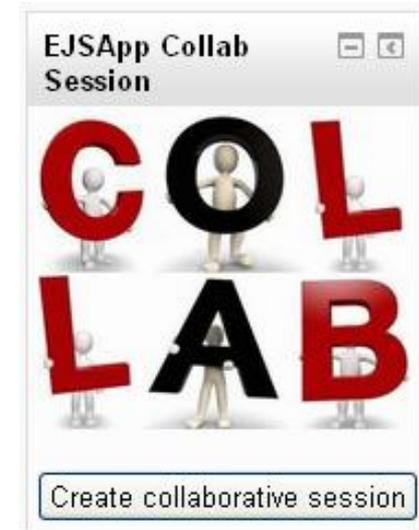




EJSApp CS



- Trabajo colaborativo con las aplicaciones EJS
- Crear/cerrar sesiones, invitar usuarios, enviar/recibir avisos



The screenshot displays the EJSApp interface for a collaborative session. The top navigation bar includes 'Home', 'My courses', 'Aut-1', and 'Collaborative session'. The main content area is divided into several panels:

- Left Panel:** A schematic diagram of three coupled tanks with control valves and pumps. Below it, a 'CONTROL' panel shows PID settings for three pumps (A1, A2, A3) and a 'VIDEO' button.
- Top Right Panel:** A graph titled 'H1 - H2 - H3 - Setpoint' showing the liquid levels in the three tanks over time (0 to 400 seconds). The levels rise and then stabilize at different heights.
- Bottom Right Panel:** A graph titled 'Pump1 - Pump2' showing the flow rates of the first two pumps over time. The flow rates decrease and stabilize.
- Bottom Center Panel:** A table of simulation parameters:

H1 [mm] = 290.06	H2 [mm] = 199.77
Pump1 [%] = 19.7	Pump2 [%] = 43.38
SP1[mm] = 300	SP2[mm] = 200
Time [sec] = 425	H3 [mm] = 249.21
- Right Panel:** A navigation menu with options like 'My home', 'Site pages', 'My courses', 'TEJS', 'Participants', 'General', 'News forum', 'General Forum', 'Heat-Flow', 'DC Motor', 'Three Coupled Tanks', and 'Booking System'.
- Bottom Right Corner:** A video feed showing a participant in a headset, with a 'Leave the collaborative session' button below it.



- Última versión estable (Página oficial de Moodle):

<https://moodle.org/plugins/browse.php?list=set&id=27>

- Última versión en desarrollo (Github):

<https://github.com/UNEDLabs>