The ATLAS Metadata Interface (AMI) is a mature ecosystem more than 15 years old. As part of AMI Web Framework (AWF), we describe a cross-domain system of embeddable HTML5 controls, based on the AJAX and CORS technologies, to share up-to-date metadata with other content services such as wikis.

AMI Web Framework (AWF)

AWF is a JavaScript framework, part of AMI ecosystem, based on modern technologies such as JQuery, TWIG, Twitter Bootstrap, ... It provides ready-to-use controls for Web applications and a tool to generate custom applications and control skeletons.

What is AMI?

AMI is a generic ecosystem, used by ATLAS and other scientific experiments, to quickly design metadata-oriented applications. It provides facilities for aggregating and searching data with easy-to-use Web interfaces and lightweight clients.

Embeddable mechanism

The AMI ecosystem has a unique HTTP service endpoint to access the data.

- It is configured server-side to allow cross-domain HTTP requests using the CORS technology. Consequently, data can be accessed from anywhere.
- It can simultaneously connect to several database systems, making possible to aggregate data from various sources.

The AMI Web Framework (AWF) is another part of the ecosystem. It is written in JavaScript 6.

- It is a library totally independent from the HTTP service and can be hosted on a separate server.
- It can be loaded and used by any modern Web browser.

AWF offers features to easily embed controls in external pages.

- Controls interact with the HTTP service using AJAX asynchronous requests. Thus user interfaces are very dynamic and responsive.
- AWF has a set of standard controls. They can be combined to create composite custom controls, fitting user needs.

How to embed an AMI control in a web page?

Getting started with AWF

It sets up:
- the AWF environment
- a Web App skeleton
- a new control skeleton

Control pattern structure

AWF permits developing applications and controls with an MVC pattern.

The MODEL is based on the CORS cross-domain AMI Web Service (AMI commands). It makes it possible to embed AMI controls anywhere.

The VIEW is based on the AMI-Twig template engine and the Twitter Bootstrap 4 CSS framework. It dynamically generates HTML5 fragments.

The CONTROLLER uses standard JavaScript technologies such as AJAX, JQuery, JSPath, ...

VIEW fragment example: AMI-Twig and JSPPath in action!

ATLAS AMI controls in action!

A composite control: the "PMG view" control for ATLAS collaboration. It gives ATLAS physicists an easy view to information on MC datasets from their own documentation. It is made from base controls like accordion, tab and table controls.