

FuzzyPhoto widget implications for partners

What is the widget?

The FuzzyPhoto widget is a small piece of code that can be inserted into partners' web pages to display links to corresponding objects in each other's catalogues. Visitors to an object record on a webpage will see a list of hyperlinks suggesting possible matches, with varying degrees of confidence. Following one of these links will open a new window containing the suggested matching object record within its owner's web site.

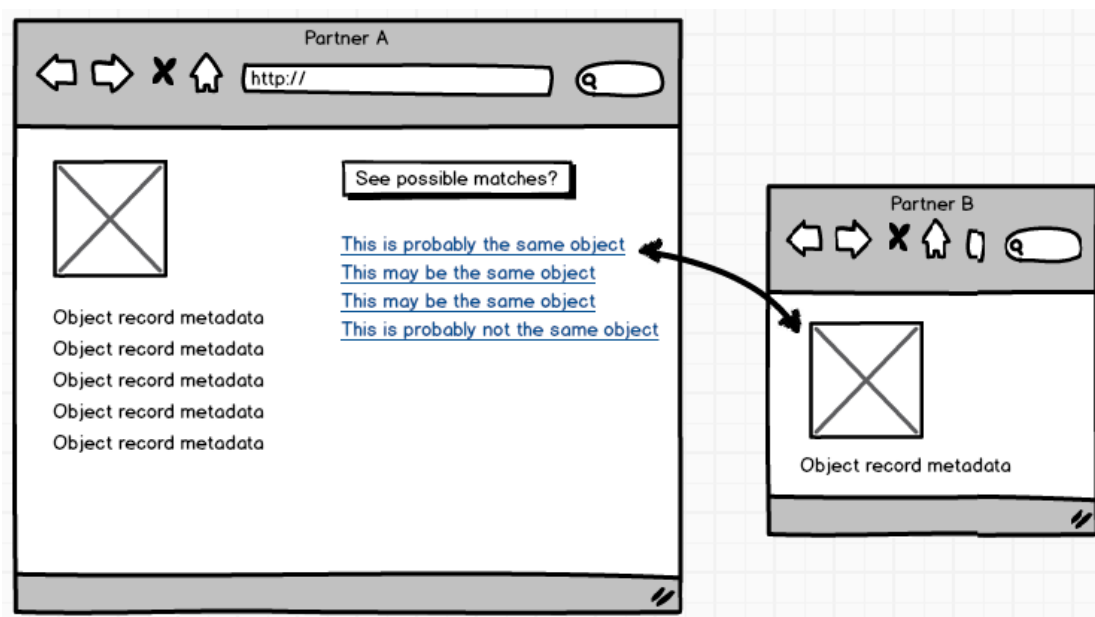


Figure 1. Parent child relationship between object records held by different partners.

If there are no suggested matches, no hyperlinks will be shown.


What the widget looks like

The basic appearance will be a frame within the partner's webpage containing explanatory text and the suggested links. This frame can be bordered, using fonts and colours to distinguish it from the host page, or it can be borderless and treated graphically to blend in with the host page. The widget can be programmed to appear automatically if there are suggested links to a particular object, or it can be hidden initially, viewable only on selection of a toggle button that displays/hides the frame. Like the frame itself, this button can be programmed to appear only if there are links to display. Results will be displayed in blocks of up to 10, closest matches first. Users will be able to widen the parameters of their search by requesting more blocks of results.

The precise appearance of the widget can be tailored by, for example, linking it to the

partners' web site CSS. See the examples below for the Exhibitions of the Royal Photographic Society 1870-1915 and the V&A web sites.

Exhibitor: F. Frith	Exhibitions
Exhibit No.: 228	Judges
Exhibit type: Photograph	Exhibitors
Process: [Not Listed] ()	Catalogue pages
Award: [Not Listed]	



Page image: Four Views in North Devon

- Hide potentially related records

View at Girgeh, The Metropolitan Museum of Art, New York. [View this record.](#)

View at Amalfi, The Victoria and Albert Museum, London. [View this record.](#)

View at Girgeh, The Metropolitan Museum of Art, New York. [View this record.](#)

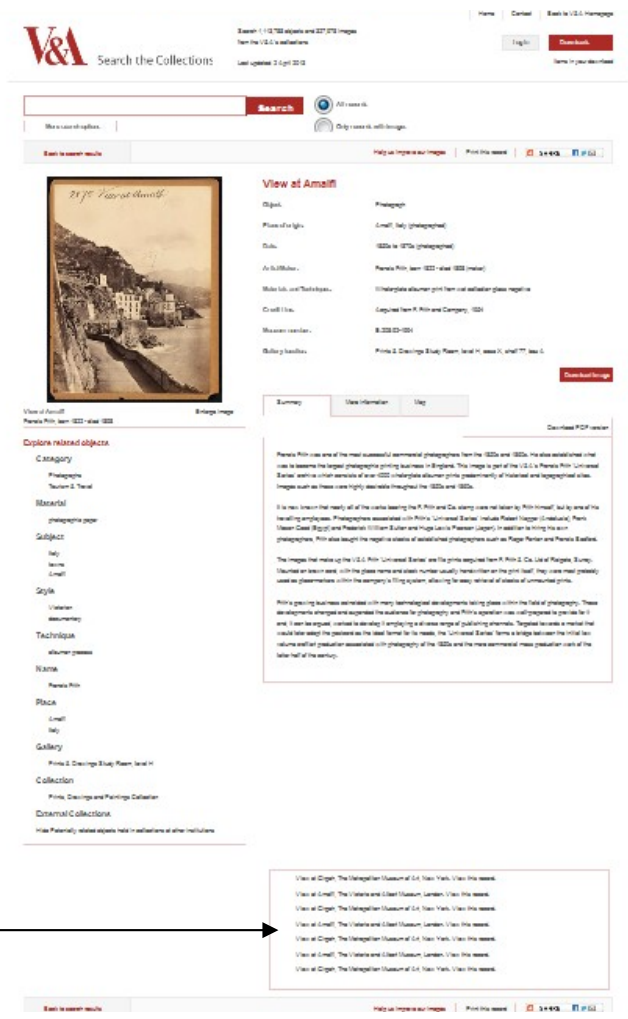
View at Amalfi, The Victoria and Albert Museum, London. [View this record.](#)

View at Girgeh, The Metropolitan Museum of Art, New York. [View this record.](#)

View at Amalfi, The Victoria and Albert Museum, London. [View this record.](#)

View at Girgeh, The Metropolitan Museum of Art, New York. [View this record.](#)

Inserted hyperlinks



The screenshot shows the V&A Search the Collections interface. At the top, there is a search bar and navigation links. Below the search bar, a search result for 'View at Amalfi' is displayed. The result includes a thumbnail image of a coastal town, a list of metadata (Object, Place of origin, Date, etc.), and a detailed description. A box labeled 'Inserted hyperlinks' points to the 'View at Amalfi' title and the 'View this record' links in the 'Related objects' section.

Inserted hyperlinks

How it works

The widget uses the HTML i-frame (invisible frame) element to create the frame containing suggested hyperlinks. When a visitor opens a partner web page containing an object record, the (invisible) embedded code will query the FuzzyPhoto links database and retrieve any matches it finds there. If matches are found these will either be made immediately visible in the frame or a button will appear inviting visitors to request to view the links. (This is a configurable feature to allow partners to choose how the links appear). If the visitor selects one of the hyperlinks, a pop-up window will open in front of the partner web page. This window will provide a direct view of the suggested related object record as displayed on the relevant partner website.

Implications for partners

Branding

Is the frame required to blend in with, or stand out from the partner website? Partners may wish to integrate the i-frame visually to maintain visual harmony and corporate branding. Alternatively they may wish to emphasise that the i-frame content is third-party for which they are not responsible, by making its appearance radically different. This aspect is configurable using CSS.

Consistency versus redundancy

Consistency of appearance, navigation and behaviour helps visitors to understand and navigate websites and builds trust. This might be an argument for including the i-frame or its toggle button on every object record. However, matches are unlikely to be found for most records, so for most pages the frame/button would be redundant, requiring a message such as "no matches were found for this record". Inviting a visitor to follow a link, only to tell them that the link goes nowhere is bad web design. It is recommended therefore that the frame or its button is only displayed where there are suggested links, even though this will mean that web pages are not entirely consistent. This may be overcome by explanatory text in the frame.

Widget rubric

Effective web design is self-explanatory and should require no user instructions. However when a new user views a frame of suggested links some brief explanation may be necessary:

- To explain the third-party nature of the frame content, including a link to the Fuzzyphoto project website.
- To explain that links only appear throughout the site against object records where possible matches have been identified.
- To explain that following a link will open a new pop-up window.

This aspect of the widget will be tested via user trials to determine the most appropriate rubric.

Quality

Public perception of the partner website may be compromised if the widget performs erratically or produces poor matches. Erratic performance may be due to server loading and firewall issues. Technical tests will be conducted and results discussed with partners before the service is implemented publicly. However tests will have to be carried out on live partner websites and visitor perceptions will need to be managed appropriately during the testing period. Poor matches could result from setting the search parameters to o wide (this is configurable so it should not be a problem).

Resilience

All data is backed up across multiple servers and to further persistent systems to ensure that in the case of data loss or server failure, service can be maintained. Virtualisation of the server has been employed for easy replication / backup of the web server. The data warehouse holding partner records is physically isolated from the internet and the links database/web server is protected behind the De Montfort university firewall.

Security

Security could be an issue if the widget could be used by malicious third parties to compromise partner web sites. The i-frame element has been identified as a potential security risk, but only for a site that is embedded inside an i-frame on a hostile site. Alternatively an i-frame element may be a security risk if any page on the site contains an XSS vulnerability which can be exploited, whereby an attacker can expand the XSS attack to any other page within the same domain that can be persuaded to load within an <iframe> on the page with XSS vulnerability. This is because content from the same origin (same domain) is allowed to access the parent content DOM (practically execute JavaScript in the "host" document). The advised defences against this type of attack are to add HTTP header X-Frame-Options: DENY and/or always correctly encode all user submitted data (that is, never have an XSS vulnerability on the site).

Sustainability

Capacity of the data warehouse and links database exceeds current usage allowing further expansion as required. A batch loading tool is being developed that will be made available at regular fixed intervals (monthly) to ingest new or revised catalogue record updates from partners. Partners wishing to submit revised catalogue records will be required to upload (FTP) them to the batch loader. Required data input format will be CSV in a format specified by DMU's FuzzyPhoto team. Newly ingested records will be added to the data warehouse and the search algorithms will output new suggested links to the links database. As soon as these updates have been made the new suggested links will be available to visitors at partner web sites. The FuzzyPhoto server cluster will be maintained by the De Montfort University Photographic History Research Centre through a service level agreement with De Montfort University Information Technology and Media Services (ITMS).