

Supplement 203: Thumbnail Resources for DICOMweb

Working Group 27: Web Technologies

Non-imaging healthcare applications don't have an easy way to represent a study

In Practice: Get a Study Thumbnail



```
{ "resourceType": "ImagingStudy",
  "id": "example",
  "uid": "urn:oid:2.16.124.113543",
  "patient": { "reference": "Patient/12345" },
  "started": "2011-01-01T11:01:20+03:00",
  "baseLocation": [ { "type": "WADO-RS",
    "url": "https://server.com/wado" },
  ],
  "series": [ {
    "uid": "urn:oid:2.16.124.113543.2",
    "number": 3,
    "baseLocation": [ { "type": "WADO-RS",
      "url": "https://server.com/wado" },
    ],
    "modality": {
      "system": "http://nema.org/dicom/dicm",
      "code": "CT"
    },
    "description": "CT Surview 180",
    "bodySite": {
      "system": "http://snomed.info/sct",
      "code": "67734004",
      "display": "Upper Trunk Structure"
    },
    "instance": [ {
      "uid": "urn:oid:2.16.124.113543.2.3",
      "number": 1,
      "sopClass": "urn:oid:1.2.840.10008.5.1.4.1.1.2"
    } ] ] ] }
```

WADO-RS Call:

GET

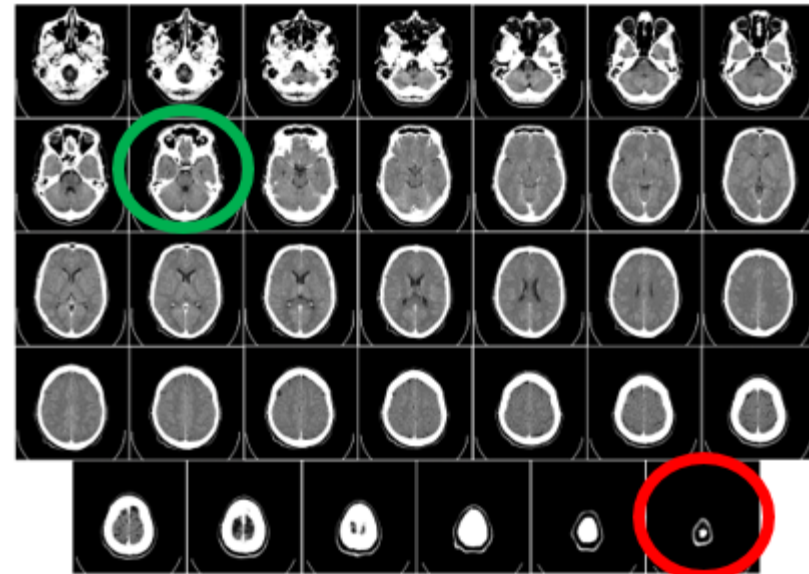
`https://server.com/wado/studies/2.16.124.113543/series/2.16.124.113543.2/instances/2.16.124.113543.2.3/rendered?viewport=50%2C50`

Accept: image/jpeg

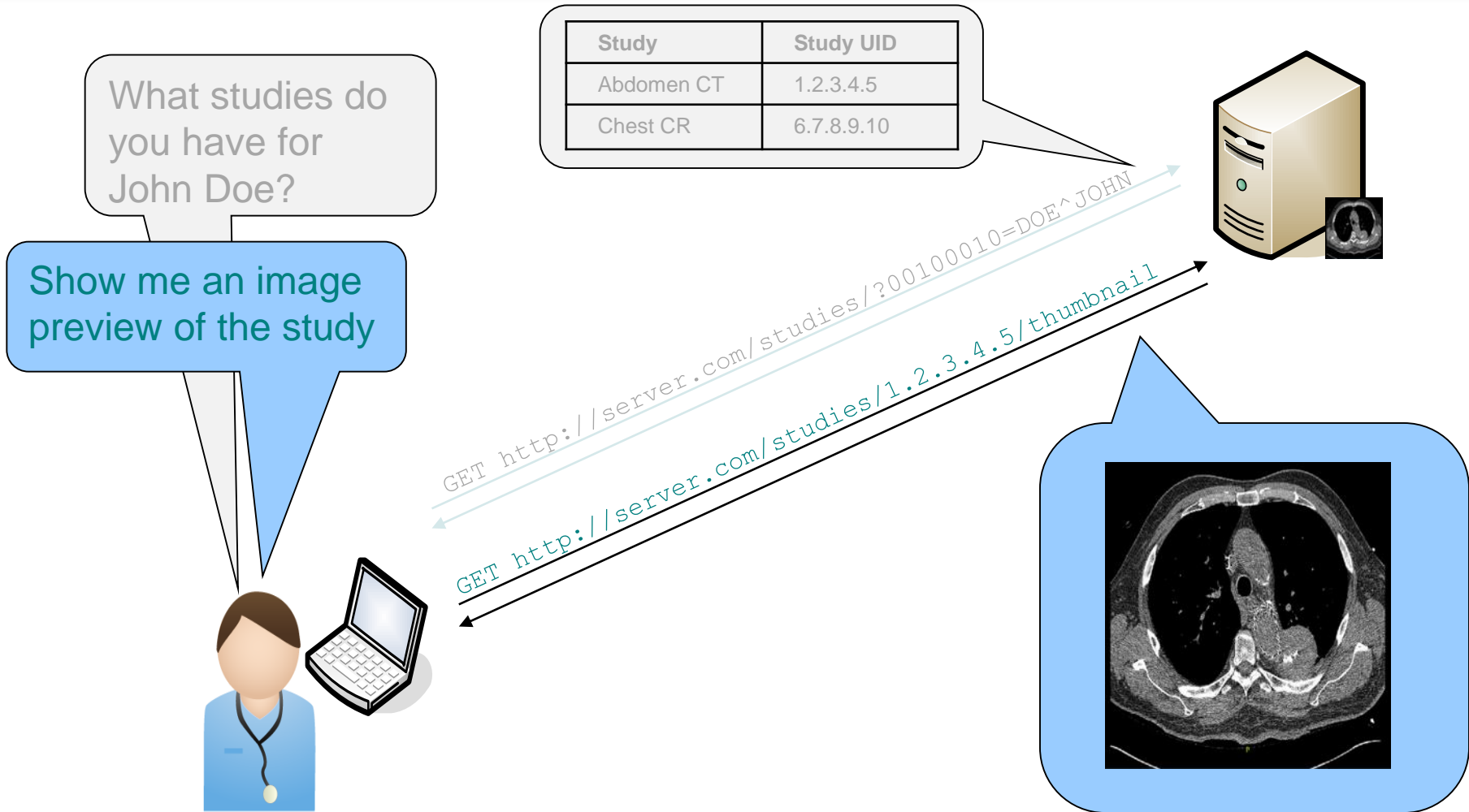
Thumbnail

Web format

- Caveat: Knowing the thumbnail is relevant



New Resource: Thumbnail



The Thumbnail resource provides imaging and non-imaging systems with a method to quickly retrieve an image that represents the parent DICOM resource.

What is a Thumbnail?

- A *small* rendered image that *represents* its parent DICOM resource
- The origin server is responsible for determining what constitutes a *small representative* image. It could be:
 - The first Instance in a CR study
 - The Instance in a CT study (non-scout series), located 1/3 of the way through the series
 - A generic graphical representation of a CT scanner to represent a CT study
 - A generic graphical representation of a page of text to represent a Structured Report Instance
 - An Instance referenced in a Key Object Selection
 - A still frame of a video Instance

The URL of the Thumbnail resource is created by adding "/thumbnail" to the URL of the parent DICOM resource

Table 11.4.1-3. Retrieve Transaction Thumbnail Resources

Target Resource	Resource URI Template
Study Thumbnail	/studies/{study}/thumbnail
Series Thumbnail	/studies/{study}/series/{series}/thumbnail
Instance Thumbnail	/studies/{study}/series/{series}/instances/{instance}/thumbnail
Frame Thumbnail	/studies/{study}/series/{series}/instances/{instance}/frames/{frames}/thumbnail