

Workspace for Attachment/Media Use Cases

From notes: "Use case clarification, Boundaries are not clear, Attachment is the observation, Patient Wound, Questionnaire, Endoscopy - JD Nolen, Dan Rutz, Grahame Grieve"

Using Media via JD:

Use Case 1

A reference lab returns results of work done on a sample. These results may or may not contain a report (sometimes in a PDF) along with data such as images or genetic data (VCF file). Upon receipt of the results, the lab goes on to do subsequent work based on the attached data, such as analytics on images or analysis of the genetic data. The results of this follow-on work become observations/diagnostic reports of the attached data.

1. The inbound PDF (or URL to) on the results is treated like media:
 - From order (observation) derived from (media) ...
2. Follow-on observation also refers to the same media resource and can do the same

Use Case 2

Specimen integrity. Non-clinical image of a sample is taken by a camera focused on the automation line. Another device analyzes the image to determine if the specimen is fit for analysis (check for lipemia and hemolysis).

- Ideal State (not possible): The media (an image) of the processing step is linked to the processing step of the specimen
- Present State: Media Observation Specimen Processing

Use Case 3

A patient presents to a clinic with a wound and a picture of the wound some time before that shows progression. The patient sends this image to the clinician who then attaches it to the patient chart. This image is measured and reference in the clinic note for the patient visit.

- Inbound image from patient treated as media and assigned most recent encounter
- Physician can then pull image into clinical note (same encounter)

Use Case 4

A patient undergoes endoscopy, where multiple images are taken during the procedure. A subset number of the images are selected for incorporation into the case note to represent key findings and observations of the case

- Use media encounter procedure clinical note
 - Could this be a challenging lookup if multiple procedures happen on same encounter?
- Use media service request procedure clinical note

Use Case 5

Questionare?

Patient submits an image (as DocumentReference)

Use Case 6

Key DICOM images are selected for inclusion in a DiagnosticReport, rendered as JPEGs.

- Exported images (JPEGs) of source DICOM images are sent to the LIS and treated as separate media files (resources) and are attached to the case via the full case identifier (accession number, block, slide)
 - Question: Does this case identifier belong in Media.identifier or just use the link to specimen to get to it? (JD: I like the latter to preserve identifiers made by the imaging system)
- These media resources can be viewed by the pathologist creating the report (diagnostic report specimen media) and incorporated into the case.

Using Observation.valueAttachment via Elliot:

See details of proposal: [Draft of Change Proposal to merge Media and Document Reference](#)

For the removal of media/addition of Observation.valueAttachment proposal:

1. The lab report is stored in a DocumentReference or Observation.valueAttachment (or a valueAttachment that references the DocumentReference content). Other observations may use derivedFrom to link to the DocumentReference or Observation.
2. The test tube photo is stored in a DocumentReference. Other observations may use derivedFrom to link to the photo. Alternatively, other Observations may use the "supporting info" extension to point to the DocumentReference.
3. The patient uploads the image to the "docs for docs" tab which creates a DocumentReference. The clinician determines that the uploaded content is actually observation-worthy and creates an Observation with valueAttachment of the DocumentReference.content.attachment. Further observations are derived from this one.
4. Assuming that the images are not stored as DICOM, each image is captured as an Observation.valueAttachment. The DiagnosticReport.media element references selected Observations as representative.
5. What's the Questionnaire question?

Additional use case:

Key DICOM images are selected for inclusion in a DiagnosticReport, rendered as JPEGs.

This use case is addressed under this proposal, using a DocumentReference to include the WADO-RS URL of rendering of the selected image. The DiagnosticReport.media element references these DocumentReference instances. To know the specific DICOM instance each selected image came from, we have a slight challenge in that DocumentReference.relatesTo.target can only be a DocumentReference. Instead, we'll have to use DocumentReference.context.related to point to the ImagingStudy and an extension on the reference could identify sub-study components, or an extension on DocumentReference itself giving the study/series/instance/frame information.