Guidelines for formulating Question-Answers from Medical Videos

Objective: To create well-formed and valid instructional questions and provide the time-stamps (start and end) where the answer is shown/discussed/demonstrated in the video.

Please note the following while creating the questions:
1. Multiple questions can be asked/formulated from the given video.
2. A question can be formulated for which the entire video is the answer.

Well-formed Questions:
We define a question to be a well-formed natural language question if it satisfies the following:
1. The question is grammatically correct.
2. Question is an <u>explicit</u> question. E.g.
   Explicit Question: *How to stop bleeding after tooth extraction?*
   Implicit Question: *stop bleeding tooth extraction*
3. The question does not contain spelling errors.
4. It should be a simple question focusing on a single answer. The examples are as follows:
   Simple Question: *How to stop bleeding after tooth extraction?*
   Complex Question: *How to stop bleeding after tooth extraction and how to apply wet gauze on the affected area?*
   (not desirable, as it focuses on two answers.)

Valid Instructional Questions:
A question can be called a valid instructional question if it satisfies the following:
1. The question is looking for an instructional answer, and
2. The answer is being shown/demonstrated/describe/explained in the video, and
3. The given video is necessary to answer the question, and
4. The answer should not be given as a text.

Examples:
- *How to check breast cancer in males?*
- *How to perform the physical examination for breast abnormalities?*

Time-stamps:
A timestamp is a way to link to a specific moment in the video. A time-stamp needs to be entered in MM: SS format.

Video Query:
The video query is collected from the WikiHow website and used to retrieve the relevant videos from YouTube.

Valid Medical Query:
A query can be categorized as a valid medical query if it belongs to the following categories:
1. Diseases & Conditions (e.g. Symptoms)
2. Drugs & Treatments
3. Medical Exams
4. Other relevant medical topics

Relevant Videos:
A relevant video should be aligned with valid medical query and
- It should explain the medical query, or
- It should be a tutorial/educational video on the medical query, or
- It should be a how-to video on the particular medical query,
- Some patient's stories may contain relevant segments, for example, explaining a specific procedure,

Irrelevant Videos:
- Pure patients' experiences are not relevant,
- Advertisement for a specific provider is irrelevant,
- Doctor talking about advertisements.

Trustworthy Source:

A video can be categorized into a trustworthy source if it belongs to the channel of the following sources:
1. Medical Experts
2. Medical Schools
3. Health Institutes
4. Health Education

Video Annotation Interface:

Screenshot

Video Annotations

Click to See All Samples

Hi Deepak!
Logout

| Sample ID: | 40 | Annotated Valid Samples: | 0 | Remaining Samples: | 184 |

Query Id | 161

Video Query | How to Check a Fever Without a Thermometer

Is it a valid medical query? | Yes

Is video relevant? | Yes

Do you want to skip the video? (not comfortable) | No

Title | | Fever Symptoms How To Check Fever Without Thermometer| Check Fever Without Thermometer

Description | Fever Symptoms How To Check Fever Without Thermometer| Check Fever Without Thermometer Having a fever means having a body temperature over the ...

Channel | Health and Beauty

Trustworthy Source | No

Does it answer the video query? | Yes

Copy Video Query   Add More Question   Delete Question

Question   Whole video ☐   Delete Question ☐

Comments

Previous   Save and Next

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Interface Annotations:

Video Annotations

Click to See All Samples

(1)

Hi Deepak!
(2) Logout

(3)

(4)

Sample ID: 40   Annotated Valid Samples: 0   Remaining Sam (5) 184

Query Id   (6) 161

Video Query   (7) How to Check a Fever Without a Thermometer

Is it a valid medical query?   (8) Yes

Is video relevant?   (9) Yes

Do you want to skip the video? (not comfortable)   No
(10)

(11)

Title | Fever Symptoms How To Check Fever Without
(12)   Thermometer| Check Fever Without Thermometer

Description   Fever Symptoms How To Check Fever Without
Thermometer| Check Fever Without Thermometer
(13)   Having a fever means having a body temperature over
the ...

Channel   Health and Beauty   (14)

Trustworthy   No   (15)
Source

Does it   Yes
answer the
video   (16)
query?

(23) Copy Video Query   (24) Add More Question   (25) Delete Question

Question (17)   (18)   (19)   Whole video ☐   Delete Question ☐

Comments (22)   (20)   (21)

Previous   (26)   (27)   Save and Next

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1. It will navigate to the page containing all the videos with their metadata and associated question answers.

Videos with their Annotations
Please have a look below and edit if required.

Sample ID:	0
Query Id	50
Video Query	How to Treat Multiple Myeloma
Is it a valid medical query?	Yes
Is video relevant?	Yes

Title	Treatment Options for Multiple Myeloma - Mayo Clinic
Description	In the third of a four-part video series on multiple myeloma, Vivek Roy, M.D., hematologist and director of the bone marrow transplant program at Mayo Clinic in ...
Channel	Mayo Clinic
Does it answer the video query?	Yes
Trustworthy Source	No

Question

Whole video ☐

Edit

2. Current user logged in and link to logout.
3. Sample id of the current video which is being seen on the interface. It is a read-only field.
4. The number of valid samples has been annotated from the whole video's list.
5. The number of remaining samples to be annotated from the whole video's list.
6. It shows the query id of the medical query. It is a read-only field.
7. It shows the query which is used to retrieve the videos from YouTube.
8. Drop-down list to choose, whether the query is a valid query or not.

9. Drop-down list to choose, whether the video is relevant or not.
10. Drop-down list to choose and skip the video if you are feeling comfortable to watch the shown video.
11. The video needs to be watched to formulate the questions.
12. Title of the YouTube video posted by the owner of the video.
13. Description of the YouTube video posted by the owner of the video, if available.
14. Link to the channel (helpful to check whether the video is from a trusted source or not)
15. Drop-down list to describe the source of the video ('Yes', 'No', and 'Moderately Reliable').
16. Drop-down list to choose, whether the video contains the answer to the video query (listed in number 6).
17. A well-formed and instrctructional question that can be asked by watching the video needs to be written in this text box.
18. The start timestamp of the answer to the question that is entered in the text box (number 15).
19. The end timestamp of the answer to the question that is entered in the text box (number 15).
20. This checkbox can be checked if the whole video is the answer to the question which is entered in the text box (number 15).
    Note: *You can either enter the timestamps of the answer or tick the checkbox associated with the whole video label.*
21. This checkbox needs to be checked if you want to delete the particular row containing the question and answer (either timestamps or whole video checkbox)
22. This textbox can be used to write any additional comments regarding the videos and formulated questions.
23. This button is used to copy the video query as the question in the Question Text Box (number 15). Prefer to add a video query as the first question if it's a valid medical query and the video contains the answer to the query.
24. This button is used to add more questions. It will add an additional row with the placeholder for Question and Answer timestamps.
25. This button is used to delete all the questions against which the checkboxes (associated with the Delete Question label) are checked.
26. This button is used to navigate the previous annotated sample.
27. This button is used to save the annotation of the current sample and navigate to the next un-annotated sample. You can't navigate to the next video without finishing the annotation of the current video.