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 explicit 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 <u>WikiHow website</u> 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 guery, 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

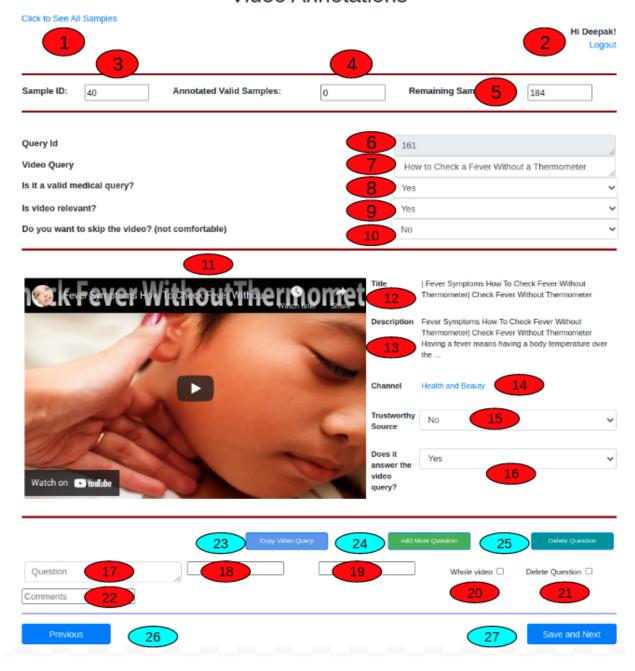
Video Annotations

Click to See All Samples

	,						1	Hi Deepak! Logou
Sample ID:	40	Annotated Valid Samples:	0		Re	emaining 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			~
				Chann Trustw Source Does i	el vorthy e	Fever Symptoms How To C Thermometer Check Fever Having a fever means havin the Health and Beauty No Yes	Without Thermo	meter
Watch on (➤ YouTube	Copy Video Q	uery	video query		tore Question Whole video	Delete Questi	
Comments	IS						Save ar	nd Nevt

Interface Annotations:

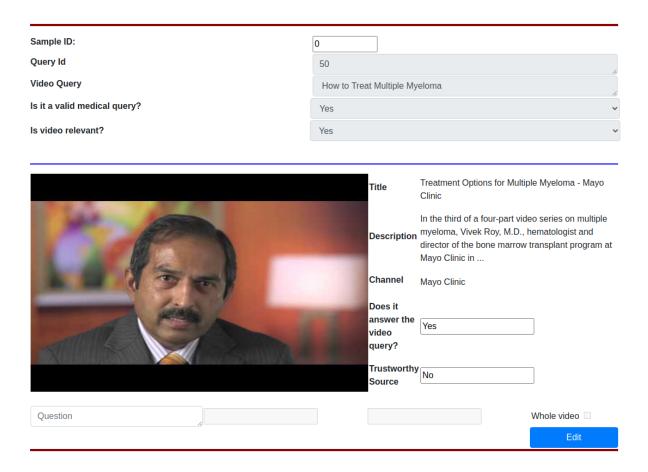
Video Annotations



 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.



- 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 guery which is used to retrieve the videos from YouTube.
- 8. Drop-down list to choose, whether the guery is a valid guery 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 instructional 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.