# Deliberated diet

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## 1 Question

We want a practical and concrete question in a fictitious, precise setting. Here
is a proposal.

In a fictitious place, a local authority considers building a new public cantine.
Should this cantine propose only vegan food?

1. It should propose only vegan food on each of the five days per week that
   it is open

2. It should propose only vegan food on four days a week and vegan and
   non-vegan choice on the remaining day

3. Monday vegan

4. Every day choice

How complete should the description of the context be? Specify if the price
end consumer price is fixed or depends on the choice of diet, if the funding
from the state to the cantine will vary depending on the choice of diet, ...
(We should pick some reasonable choice and not worry about it.)

# 2 Protocol

Here is a possible protocol aiming to establish the content that will be played to the subject. This is a draft proposal open for discussion.

Assume we have two champions, $C_a$ and $C_b$.

## 2.1 Collection phase

We ask $C_a$ and $C_b$ for their favorite propositions, defined as $t_a$ and $t_b$ respectively (to choose among items 1 to 4 as defined in section 1). Hopefully, we have chosen $C_a$ and $C_b$ so that $t_a$ and $t_b$ are at opposite ends of the spectrum.

We ask $C_a$ to produce a video in favor of $t_a$, and label it $s_{1a}$. We send $s_{1a}$ to $C_a$. We give $C_b$ a choice: either produce a reply video (arguing for $t_b$ against the video arguing for $t_a$), or start a new thread in favor of $t_b$, or both. In the first case, we label the argument $s_{1ab}$. In the second case, we label the argument $s_{1b}$. We repeat this scheme ad nauseam. We also run a parallel scheme starting with $b$ instead of $a$.

Here is a more precise description of the collection phase.

- At the start of the whole procedure, both champions are fully informed about the procedure and the future use of their arguments, including about the time constraints (effectively as if they received a copy of this whole document, except possibly with a different form more suitable for easy understanding of their role).

- The naming scheme is such that the last letter of a video indicate its author.

- Define init($\alpha$), with $\alpha \in \{a, b\}$, as follows. Precondition: $C_\alpha$ has received no argument of any sort from her opponent. We ask $C_\alpha$ to produce a video in favor of $t_\alpha$, and label the resulting video $s_{1\alpha}$.

- Define next($\alpha$), with $\alpha \in \{a, b\}$, as one plus the greatest integer numbering a start video recorded by $\alpha$ in the whole process so far. For example, if $\alpha = b$, and if a video labeled $s_{3b}$ exists already but no video labeled $s_{4b}$ exists yet, then next($b$) = 4.

- Define reply($S$), with $S$ a set of previously produced videos by a given champion $\alpha$, as follows. We address the champion $\beta$, with $\beta \neq \alpha$. We send her the videos in $S$. About one week later, we meet her and let her reply to every videos she wants to reply to by recording new videos. A

video replying to another video is labeled by suffixing $\beta$ to the label of the video it replies to. For example, if $\alpha = a$, when replying to a video labeled $s_{1aba}$, we label it $s_{1abab}$. The set of replies may be empty. She may also start a new video that is not a reply, that we name $s_{k\beta}$, with $k$ equal to next$(\beta)$.

- We start with init$(a)$ and init$(b)$ in parallel, therefore obtaining $s_{1a}$ and $s_{1b}$. Define $S_{1a} = \{s_{1a}\}$ and $S_{1b} = \{s_{1b}\}$.

- After having obtained a set of videos $S$, if $S \neq \emptyset$, we run reply$(S)$, and label the set of resulting videos by suffixing the identifier of their author to the label of $S$.

- We repeat the previous step, running two threads in parallel whenever possible, until we exhaust both participants.

- When both participants have finished producing videos, we ask them to label briefly (max. $x$ words, TBD) each of their own videos and select an image from the video that becomes its "thumbnail".

**Example 1** Here is an example run.

1. We start with init$(a)$ and init$(b)$ in parallel and obtain $s_{1a}$ and $s_{1b}$. Define $S_a = \{s_{1a}\}$ and $S_b = \{s_{1b}\}$.

2. We apply reply$(\{s_{1a}\})$ and obtain $S_{ab} = \{s_{1ab}, s_{2b}\}$.

3. In parallel, we apply reply$(\{s_{1b}\})$ and obtain $S_{ba} = \{s_{1ba}\}$.

4. We apply reply$(S_{ab})$ (as soon as $S_{ab}$ is available) and obtain $S_{aba} = \{s_{1aba}, s_{2ba}, s_{2a}\}$.

5. We apply reply$(S_{ba})$ (as soon as $S_{ba}$ is available), but $C_b$ sees no need to answer those ridiculous arguments; we obtain $S_{bab} = \emptyset$.

6. We apply reply$(S_{aba})$ (as soon as $S_{aba}$ is available), where $C_b$ sees an opportunity for answering; we obtain $S_{abab} = \{s_{2bab}\}$.

7. We apply reply$(S_{abab})$ (as soon as the argument is available), $C_a$ is really fed up with all this circus, and we obtain $S_{ababa} = \emptyset$.  □

We put every collected video on a web site and design everything so that the second phase of the protocol (see below) can be run.

## 2.2 Adjudication

When the collection phase is over, we start the adjudicating phase. An individual $i$ comes to our web site. The individual $i$ is explained by written text that his deliberated opinon is asked, is explained that two well-known public figures have argued for two options, is explained the context and shown the possible choices, and is invited to spend as much time as he wants watching videos (without restriction of balancing the time spent for each champion) to form an opinion. He must sign up, using an e-mail address, before he can start viewing the videos.

- The phase is composed of **steps**. Each step starts with an associated set of videos "proposed", $S_P$, and an associated list of videos "seen", $S_S$. The list $S_S$ is possibly augmented at the end of each step while the set $S_P$ is computed at the start of each step from the list $S_S$ resulting from the previous step.

- At the start, $S_S = \emptyset$.

- A "step" consists in the set $S_P$ being shown to the individual among which he can choose the video he will watch during this step; and he can also watch again videos that are "seen". Each video is displayed as its thumbnail, with its label shown clearly, in a randomized order; the videos from $S_S$ are clearly distinguished and displayed afterwards, in the order they have entered the list (the order they have been marked as "seen"). He clicks on a video and starts watching it. He can navigate in the timeline of the video (a la youtube). The step is finished with one of these possibilities.

    - If the video is watched until the end with no navigation in the timeline, in which case the video is added at the end of $S_S$.

    - The user can also click to mark the video as seen without having watched it entirely, in which case the video is also added at the end of $S_S$.

    - The user can also click to stop the video without marking it as seen; in which case $S_S$ is not modified and the video is added at the end of $S_T$.

- Given a video $s$, define $r(s)$ as the singleton set containing the reply video to $s$ (thus produced by the other champion than the author of $s$), if such a video exists, and $\emptyset$ otherwise. For example, $r(s_{2aba}) = \{s_{2abab}\}$ if such a video exists. At the start of a step where the list of videos

seen is $S_S$, $S_P$ is defined as the non-seen videos among the starting videos and the videos replying to a video that has been seen, thus, $S_P = \left( \{s_{k\alpha}, k \in \mathbb{N}, \alpha \in \{a, b\}\} \cup \bigcup_{s \in S_S} r(s) \right) \setminus S_S$.

- At any time (except when watching a video in full-screen), $i$ sees how much time he has spent watching videos of each champion. (To gently push him towards balancing his view time between both champions.)

- If $i$ interrupts and later comes back, he must log in again and he starts back at the step he was when we lost track of him.

At each step, $i$ may click "questionaire" to go to the questionaire part. In this part he is informed that we suggest he answers these questions only after he has formed a deliberated opinion, but that he can anyway go back to the video part and come back to the questionaire whenever he wants and change his answers. The questionaire asks the following questions.

- Which answer do you choose (referring to section 1)?

- Which answer would you have chosen if the question had been asked before you saw the videos?

- Which videos did you find personally most convincing (may select videos from both champions)?

- Which videos did you find most informative from champion $a$? From champion $b$?

- Which videos would you select for displaying to other users to help them form a deliberated judgment about this question?

- Do you consider that this is your final answer to the question, or do you consider it likely (possible?) that you would still change your mind if watching more videos?

- Have you used other sources that the videos on this web site to form your judgment about this question after having heard about this question (referring to section 1)?

For each of the "which videos" questions, he is shows the list of thumbnails of videos in $S_S$, followed by the thumnails of videos he has partially seen (but not marked as seen), and can check any thumnail he wants.

# 3  Analysis

- We count the total time spent watching videos from each champion. (Can we do this technically?) We count the time really spent playing a video, including replays when $i$ has watched several times the same (part of a) video, and thus not counting fully a video that has been partly watched, even if the video has been included in $S_S$ because of an explicit demand from $i$. This permits to count time allowed to each champion.

- ...?

# 4  Think

1. Should we grant the right to the champions to discard some of their videos at the end of the collection phase? Or promote some? (They might think that some of their videos are much better than others.)

2. We have to make sure $i$ understands that he will be proposed the "replies" videos only once he has marked the video as "seen".

3. An alternative would be: the user is displayed the question at any time and is asked for his *current* judgment about the best answer, and can change his answer after each video if desired. Something like: "which would be your current judgment about the best answer to this question at this point?"

4. An alternative: $i$ may at any starting step indicate that he has formed a deliberated judgment. At this step, we let him know that if he confirms, he will be brought to the questionaire part and that he will no longer be able to watch more videos until he has finished answering the questionaire.

5. We should introduce some random suggestions: some individuals are directed (more or less constrained) to some videos, so that we can analyze the result on the DJ depending on the path.

Objectifs à l'issue de cette expérience :

1. l'effet du dispositif sur l'avis de la personne : analyser dans quelle mesure les gens changent d'avis

2. est-ce qu'on peut raisonnablement dire qu'on a capturé le DJ ? Par exemple, sa position est-elle stable face à des arguments puisés dans une BD ? On pourrait comparer l'affirmation de stabilité sans protocole, ou après le protocole. Ou on pourrait comparer notre protocole à un autre et voir lequel amène à une position stable (donc proche du DJ).

3. Determine and validate a procedure to build CAC models?