

BIRDS-EYE SUMMARIES: GUIDELINES

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Introduction

To support the qualitative analysis of our interview scripts, we want to create “birds-eye summaries” for Q4. A *birds-eye summary* is a list of *birds-eye statements or claims* where each *statement/claim* captures the *gist of something an interviewee said about code quality*. Transforming the transcripts into lists of more uniform birds-eye statements/claims will facilitate further analysis.

If an interviewee says something relevant about code quality, please select the corresponding part in the transcript and write a birds-eye statement/claim to it as a comment.

Each birds-eye statement/claim should be an “assertion” of the following form:

<quality indicator | activity> => <effect>; <confidence/evidence>; <artefact>; <feeling>

Where

- *quality indicator | activity* defines a code property or indicator of code quality or some activity.
Examples: comments, following coding standards.
- *effect* defines the effect the quality indicator or activity has on code quality.
Note that it must be clear from the context in which direction the effect goes (positive/negative). If it is unclear just add a word for clarification. Examples: worse understandability, clarity, readability.
- *confidence/evidence* defines the confidence and/or type of evidence the interviewee shows regarding the assertion.
Interviewees can be more or less confident about their statements (see (Hughes et al. 2005) for a coding scheme along these lines). For our analysis it would be important to know whether interviewees are confident and can provide “evidence” (examples) or whether they just repeat what they think they know from “hearsay”. Examples: confident, hypothesis, questioning, confusion, ...
- *artefact* gives details about the artefact, practice, etc. the statement refers to, i.e. what the interviewee talks about.
This can be something like code in general, specific designs, components or language constructs, specific practices or ways-of-working, etc.
If the interviewee refers to a piece of code, it would be nice to capture the following:
 - A reference to the code, file name and line.
 - The type of example (if this info is available) or the relationship of the interviewee with the code. E.g., whether the code was developed by the interviewee or someone else. Or whether the interviewee acted as a maintainer, a reviewer or just a user.Examples: reviewed student code, textbook example (ref to book and page nr if available), developed code (ref to file and line nr if available).
- *feeling* describes an emotion the interviewee assigns to the assertion.
This might be interesting to capture since claims about quality issues are often highly

emotional. However, I'm not sure whether it is possible to collect that information. It might only be available for few statements/claims.

If an assertion is based on a summary by the interviewee that only summarizes/concludes earlier statements/claims, the assertion should be marked by "summary statement" at the end.

Since it would be nice to know the total number of examples that were discussed in each interview, you should also add a summary comment at the end of the transcript. We will need this information anyway; it is therefore best to collect it directly.

All files relevant for this task have been moved to the following Dropbox-folder for everyone's convenience.

... -> ... -> ...

Please do not upload your completed summaries (yet) to avoid bias.

Examples

Johan and I did two summaries independently and we think that the "method" works well. You can find our examples in the same folder as listed above.

We marked relevant statements/claims in the transcript and provided a summarizing assertion as a comment using Word's comment function. Note that comments in Word can be shown to the right of the text (vertical) or as a list of all comments at the end of the document (horizontal). This makes it possible to switch to a horizontal view to easily cut and paste all comments in a document. See <https://superuser.com/questions/580678/is-there-a-way-to-view-a-list-of-comments-in-microsoft-word-2007>.

Work assignments

Who is supposed to do which transcripts is described in the Excel-sheet Assignments_BE in the same folder. Please do not upload your completed summaries to avoid bias, just mark completed summaries in the Excel-sheet in Dropbox.

Deadline: ...

References

Hughes, C., Buckley, J., Exton, C., O'Carroll, D., & SVCR Group. (2005). Towards a framework for characterising concurrent comprehension. *Computer Science Education*, 15(1), 7-24.

Discusses Good's original coding scheme for program comprehension and proposes a coding scheme for a "confidence dimension", where "[e]ach category in this dimension refers to differing levels of confidence students' have in their utterances". I think this could be useful to categorize the utterance of our interviewees because there are a lot of uncertainties in the interviews.

The "confidence" of an assertion or claim is coded as certainty, hypothesis, questioning, confusion or else.