Data Dictionary of "Reading between the Smells: Investigating Developer Responses to Code Smells" Paper

all_exp_fixations_original2.tsv Data Dictionary

- **fixation_id**: Unique identifier for each fixation event.
- **fixation_run_id:** Identifier for a fixation run, allowing grouping of fixations belonging to the same code.
- **fixation_start_event_time:**Timestamp indicating when the fixation event started, in nanoseconds.
- **fixation_target:** Number of the code file analysed.
- **source_file_line**: Line number in the code file where the fixation occurred.
- **system_time:** System time when the fixation was recorded, in milliseconds.
- **tracker_time:** Time recorded by the eye tracker during the fixation, in microseconds.
- **duration**: Duration of the fixation, in milliseconds.
- **date_hour**: Date and time when the fixation was recorded, in ISO 8601 format.
- **chunk**: Code chunk or section where the fixation occurred.
- **chunk_num**: Numeric identifier for the code chunk.
- **event:** Description of the event context during the fixation.
- **event_numeric**: Numeric encoding of the event type for analysis.
- **experiment**: Identifier of the participant associated with the fixation.

answers_experiments.tsv Data Dictionary

- **experiment_id**: Participant identifier.

- **Timestamp**: Date and time of registration.

- **ParticipantConsent**: Consent of the participant.

- **KnowsCodeSmells**: Read this definition of code smells: Code smells are poor design and implementation choices in code development that affect understanding and maintenance of the software.

- **CodeSnippetXXDesc**: Please, describe how the code snippets works.

- **CodeSnippetXXComplexity**: Is the analyzed code snippets hard to comprehend?

- **CodeSnippetXXExplanation**: Based on the previous answer, explain why.

- **CodeSnippetXXSmell**: Is there a code smell in the analyzed code snippet?

- **CodeSnippetXXSmellType**: What code smell(s)?

- **CodeSnippetXXSmellSeverity**: What is the code smell severity?

- **CodeSnippetXXSeverityReason**: What was your reason for choosing this severity?

- **CodeSnippetXXFeeling**: How did you feel during the analysis of this code snippet? (1 for very uncomfortable to 5 for very comfortable).

- **HighestEducation**: Which is the highest level of formal education that you graduated?

- **ProgExperienceYears**: How long professional experience in programming do you have? (Answer in years and months. Ex.: 1Y3M or 0Y2M).

- **SoftwareDevExperienceYears**: How long professional experience in software development do you have? (Please include programming, testing, administration, management, projects, etc.).

- **JavaExperienceYears**: How long professional experience in programming in Java do you have?

- **LanguagesUsed**: Which programming languages did you use throughout your career?

- **ToolsUsed**: Which of those tools did you ever use?

- **ProfessionalRoles**: Which of those roles have you held throughout your professional career?

- **CurrentRole**: Which of those are your current roles?

- **KnowsCodeReview**: Read this definition of code review: A code review is a process where someone, other than the author(s) of a piece of code, examines that code.

- **UsedCodeReviewTools**: Have you ever used any code review analysis tools?

- **CodeReviewExperience**: Please describe your earlier experience with code review analysis tools.

- **CodeReviewFrequency**: How long have you been conducting regular code reviews for your peers?

- **ComfortableReviewLanguages**: Code in which of those languages would you feel comfortable reviewing?

- **RecognizableSmells**: Which of the following code smells do you believe you can recognize?

- **CodeSmellsAffectMaintenance**: Do you feel that code smells in traditional sense make the code less maintainable?

- **SmellTransferability**: Do you feel that concept of code smell can be transferred between programming languages?

- **MainCodeComprehensionIssue**: What is the biggest problem you encounter in comprehending code written by you or other people?

- **QATechniquesUsed**: Which quality assurance techniques do you use in your daily work?

- **BeliefInReviewBenefit**: Do you believe that reviews contribute to code quality?

- **BiosensorResearchParticipation**: Have you ever participated in any research with biosensors? If yes, please describe.

- **FeelingDuringCodeAnalysis**: How did you feel during the analysis of all code snippets? (1 for very uncomfortable to 5 for very comfortable).

- **BiosensorsImpactOnSmellDetection**: Do you think the use of biosensors (smartwatch and eye tracker) affected your ability to analyze code snippets in search of code smells?

- **BiosensorsValueInSmellAnalysis**: Do you think the use of biosensors by developers can provide valuable data to understand the code smell analysis process?

- **OpenToBiosensorsForCoding**: Would you be open to using biosensors in your daily coding activities to better understand your performance and potentially improve your code quality?

- **BiosensorUsageImprovementSuggestions**: Do you have any suggestions to improve the use of biosensors in the context of code smell analysis?

- **KeyEyeTrackingFeatures**: What features do you think are most relevant when using eye tracking to assess code comprehensibility?