Research Question:	**Are software professionals able to provide representative examples of TD items in their projects?**
Goal:	Investigate if the participants are able to exemplify representative TD items from their projects and identify the type of debt exemplified by the participant.
Expected Result:	- Identification of the answers that will be considered for analysis in the survey; - Identification of the type of debt exemplified by the participant;
Necessary Files:	- **Analysis_COUNTRY-NAME_Execution_TDExample.xls** - Types of technical debt and their indicators.docx

Analysis Procedure

To analyze the examples of TD provided and to classify whether they are valid examples or not, we should consider two criteria: (i) the example need to be compatible with the definition of TD we used in the survey, and (ii) the given example can be classified into one of the types of debt defined in (Rios *et al.,* 2018) ("*Types of technical debt and their indicators.docx*"). This process should be performed by one researcher and reviewed by a second one:

1. Read the example provided by the participant and analyze if it is compatible with the following TD definition:

   > "*Technical debt contextualizes the problem of outstanding software development tasks (for example, tests planned but not executed, pending code refactoring, pending documentation update, use of bad design practices, code that does not exhibit good coding practices) as a kind of debt that brings a short-term benefit to the project (normally in terms of higher productivity or shorter release time of software versions), that may have to be paid later in the development process with interest (for example, a poorly designed class tends to be more difficult and costly to maintain than if it had been implemented good object-oriented practices).*"

2. If the answer for step 1 is yes, then we can go to step 3. If not, the participant will be discarded and will not be considered in the whole data analysis of the survey because his/her answers probably will not be about TD;

3. The answers for Q13 and Q14 are analyzed together to identify the type of debt that can be associated with the example of TD item described by each participant. To support the identification of the TD type, we should consider the list of indicators of TD defined by Alves *et al.* (2016) ("*Types of technical debt and their indicators.docx*");

4. Each TD indicator is associated with a TD type. Thus, for each example of TD item (Q13) and justification why the participant chose that example (Q14), we need to look for terms that can be mapped to indicators of TD;

5. If we can perform the mapping, then we can identify the type of debt associated to that example of TD item. If we cannot perform the direct mapping, then we have two possibilities: (i) identify the type of debt considering the overall description provided by the participant or (ii) do not have a type associated with that example;

   a. When it is not possible to associate an example to a specific type of debt, we classify it just as "technical debt".

6. All these steps need to be reviewed by a second researcher.

Example

Table 1 illustrates the steps (3 to 5) we follow to identify the types of debt considering the three situations cited below:

(i) mapping between text fragments and TD indicators,

(ii) use of the overall description to identify the type of debt, and

(iii) no identification of TD type.

In the examples of Table 1, the terms highlighted in blue bold were decisive to make possible the association of a TD type to that example of TD item.

Table 1. Identification of the type of debt related to the examples of TD items

		Answer for Q13	Answer for Q14	TD Indicador	TD Type
TD type identified	**Mapping using TD indicators**	"Update **pending documentation**"	"As I work with tests, the non-update of documentation impacts directly on my daily work."	Outdated documentation	Documentation
	Mapping using overall description	"The refactoring of a system **module that impacted another module**"	"Because this example makes clear the need to deal with TD earlier, minimizing future impacts"	-	Architecture
TD type not identified		-	-	-	-