Questionnaire of Practices

This questionnaire is part of a study about variability management on software ecosystems. The goal is to investigate the variability management process on open source software ecosystems. We aim to collect specifically the practices used to manage variability mechanisms. For our research, your opinion is very important. Thank you for your participation.

First, I would like to explain the definition of variability that we are considering for this work:

Variability is an ability to change (configure, customize, extend) software artefacts (e.g. code, product, domain requirements, models, design, documentation, test cases) for a specific context.

The mechanisms for variability that we consider for our work are:

- replacement, omission, and replication of architectural elements
- object-oriented (OO) techniques
  - inheritance
  - specialization
  - delegation
  - application frameworks
- parameterization (including macros and templates)
  - Special case: compile-time selection of different implementations or implementation fragments (e.g., *#ifdef*)
- generation and generators

Q1 - Name (optional)

Q2 - What is your role in the company? (Developer, Project manager, Requirements engineer, architect, Quality assurance manager)

Q3 - How long have you worked in the ecosystem?

Q4 - Give a general description of your main activities in the ecosystem.

Q5 - Which methods/techniques were used for identifying potential features that compose a variation? (Surveys, workshops, elicitation with customers, ad hoc, etc.)

Q6 - Please, considering the following practices, which practices are used in your ecosystem? Give examples of the use of the practice.

1 - Develop models of code to guide the implementation of variability mechanisms

2 - Establish guidelines to perform replacement, omission, and/or replication of architectural elements
3 - Establish rules to keep or change elements of the interface (API) of the platform
4 - Define rules to conduct tests in different elements or derivatives of the use of the variability
5 - Define rules to implement different possible configurations for elements derivatives of the use of the variability
6 - Define rules to keep the security for different possible configurations for elements or derivatives of the use of the variability
7 - Keep and manage a history of all mechanisms of variability used in the ecosystem
8 - Develop strategies and marketing to incentivize the use of mechanisms of variability
9 - Adopt specific tools to manage variability in the architecture
10 - Keep documentation about all points of variability used in the ecosystem
11 - Measure the results of the use of the variability
12 - Train the community to implement mechanisms of variability
13 - Receive feedback from the community about the use of variability mechanisms
14 - Use Prototypes to help when negotiating about requirements/changes
15 - Frequent and open communication between sales agents and technical experts during sales negotiations
16 - Tool support for requirements management
17 - Adopt clear configuration strategies
18 - Continuous prioritization
19 - Use standard interfaces
20 - Use of parameters
21 - Partially automated generation of product releases
22 - A release tool for managing the versions of delivered releases
23 - Use of make files
24 - Test data generation from the system model
25 - Keep history of the customer releases in order to check how many/which customers have a certain defect
26 - Use of test automation
27 - Documentation is automatically generated as a part of the generation of product releases
28 - Use tools to investigate tradeoffs instead of making ad hoc decisions
29 - Manage variability evolution, mapping dependencies among features
30 - Do inspections and reviews of variability models and artifacts

Q7 - Do you want to make any comments or suggestions?