A short survey on working with artifacts

During a software development project, various artifacts are created. By artifact we mean any kind of textual or graphical document, with the exception of source code. Artifacts may be, for example, textual requirements documents, graphic models (including UML diagrams), glossaries, charts, or sketches. Artifacts are related to each other in different ways: An artifact can be based on a part of another artifact, complete another artifact, be an alternative to another artifact, or be an abstraction of another artifact. The information about which artifacts are related to each other and what kind of relationships they have can be kept by the following methods:

1. Software tool: Any software development tool that manages the artifacts and shows the relationships between them. E.g., Enterprise Architect, Confluence, etc.
2. Folder Structure: Creating a hierarchical folder structure to keep artifacts. The location of an artifact in the hierarchy shows its relation to others. For example, artifacts in one folder may be complementary to each other.
3. File Name Convention: In this case, the name of the artifact file constitutes several parts. For example, the first three characters show the group it belongs to and a sequence number shows the order, etc.
4. An Extra Artifact: One artifact is created manually only to show the relationship between other artifacts. It works as an overview artifact.
5. Reference to Other Artifacts: referring to other artifacts (for example by name or by a hyperlink) inside another artifact.
6. Memorizing: In this case, no tools are used and practitioners rely on their memory to remember which artifacts are related to other artifacts and how.

Each of these methods for keeping relationship information has its advantages and disadvantages and can capture the relationship information at a certain level.

1. Which of these six methods are being used by you at your current occupation in industry or university? (You can select multiple methods)

☐ Software Tools	☐ Folder Structure	☐ File Name Convention
☐ An Extra Artifact	☐ References to Other Artifacts	☐ Memorizing

2. Please choose one of the five options for each method to express your opinion about how much relationship information can be captured and stored by that method.

	Very Low	Low	Medium	High	Very High
1. Software tool	○	○	○	○	○
2. Folder structure	○	○	○	○	○
3. File name convention	○	○	○	○	○
4. An extra artifact	○	○	○	○	○
5. Reference to other artifacts	○	○	○	○	○
6. Memorizing	○	○	○	○	○

3. In your opinion, how much extra effort practitioners generally should devote to each of these methods to make them work and maintain them in comparison to the case where no relationship information is kept?

	Very Low	Low	Medium	High	Very High
1. Software tool	◯	◯	◯	◯	◯
2. Folder structure	◯	◯	◯	◯	◯
3. File name convention	◯	◯	◯	◯	◯
4. An extra artifact	◯	◯	◯	◯	◯
5. Reference to other artifacts	◯	◯	◯	◯	◯
6. Memorizing	◯	◯	◯	◯	◯

4. How much the performance of creating, understanding and modifying artifacts would be improved by knowing the relations between artifacts using any of these methods or any combination of them (regardless of the extra effort needed)?

Very Low	Low	Medium	High	Very High
◯	◯	◯	◯	◯

5. How much are you satisfied with the amount of relationship information you have about the artifacts you work with?

Very Low	Low	Medium	High	Very High
◯	◯	◯	◯	◯

6. Do you know any other method to keep and store relationships between artifacts that is not mentioned here? Please name it, describe it and rate it according to the above scale.

7. By which factors can the performance/productivity/efficiency of a practitioner be measured when creating, understanding and updating artifacts? Please write the keywords that come to your mind.

Name:

If you are working in a company:

Your current role:

Years of professional experience in software development:

Number of employees in your company:

If you are working in academia:

◯**Master Student** ◯**PhD Student** ◯**Postdoc** ◯**Professor**