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Forms Guideline

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URL: <http://www-group.slac.stanford.edu/esh/eshmanual/references/pubsGuideForm.pdf>

1 Purpose

The purpose of these guidelines is to help create more effective forms. They cover selecting the type of form and technology to use and some key design considerations. They do not cover the visual design of forms or how to create forms in specific applications. They apply to program managers and form developers.

2 Guidelines

2.1 Is a Form Needed?

The first question to ask in designing a form is whether the form is needed at all. Forms are meant to capture information related to a process in a way that makes it easier to use. If you really do not need the captured information you probably do not need the form. A simple test for whether you need the information is whether you have any plans to use it. If not, a checklist, procedure, or guideline might be more appropriate.

2.2 Choosing the Type of Form and Technology

Forms ensure people provide all the required information (required fields), in the right format (dates, numbers, names) and sequence, with acceptable values. The type of form and technology to use depends on how strictly this information needs to be controlled, which in turn depends on how the information is to be used. Information that exists only on the completed form does not need to be strictly controlled; information that is meant to be taken from the form and entered into a larger system for other uses needs to be more controlled and structured so it is easier to combine.

Forms can be thought of as coming in three types: those not connected to any other system, those that are semi-connected, and those that are fully connected. How the form should be set up and what technology to use depends on the type. Here are examples:

1. **Unconnected.** A form meant to be completed as part of performing some operation, then simply stored or discarded afterwards. Even if stored, the fact that the information does not go anywhere else means it is not connected to any other system. This means the information does not need to be strictly controlled and structured. For an unconnected form like this a simple paper or easy-to-edit electronic version (like a Word or Acrobat file) will do.

2. **Semi-connected.** A semi-connected form is one meant to be completed independently of a larger system but at some point reconnected, either automatically or manually. Think of punch cards, fill-in-the-bubble tests, bar-coded packing slips, downloadable forms. Generally the form has to be semi-connected because it is not convenient to keep it connected while someone is using it (because the person has to complete it while in the field or using a different computer or machine). The key to using semi-connected forms is to make sure they can be easily reconnected to the larger system. This means making sure the information is strictly controlled and structured. For a form like this a paper or electronic version that is highly structured but can exist outside a system (like a bar-coded paper, Word, Acrobat, or InfoPath [or similar XML] form) will do.
3. **Connected.** A form that is always directly connected to a larger system in which the information is to be used. This can be as simple as a line in a paper ledger or as complex as an order in an online retailing system. Because the form is directly connected to a system, the information is usually highly controlled and structured (it has to be or the system will not allow it). The downside of a connected form is the cost of setting up the system and the need to be connected to it; the upside is the ability to consolidate and track information from many completed forms easily and quickly. Connected forms are usually electronic and involve a server/database and client/form, usually web-based. If you want a form to capture information that is related to other institutional information, you should consider using an institutional system (at SLAC Oracle). A good option for simple systems is SharePoint: lists with form interfaces, custom permissions, workflows, and basic reporting are easy to set up.

2.2.1 Paper versus Electronic

For the most part, the connectedness of the form matters more than the medium (paper, electronic, whatever) when choosing the form technology to use. But if people are to use the form (either to complete it or to refer to it) in the field, you should assume they will need a paper copy. That means making sure the forms and related reports have easy-to-print versions. This does not mean paper should be the only version: producing reports in different formats is in fact easier to do with a highly structured electronic form, because the information can be easily transformed into a variety of formats. Likewise forms that are related to more complex processes are better suited to being electronic, because this simplifies processing and tracking.

2.2.2 Standard versus Non-standard

Whether to require standard forms or allow non-standard, customized forms depends again on what will be done with the captured information. If the information is to be used as part of a larger system, a standard form works better. If the information is used by itself, a custom form has the advantage of being possibly easier to use and more familiar to various users. Forms should be assumed to be standard: if a non-standard form is allowed, say for an inspection checklist, that should be stated explicitly. (Note with sophisticated forms the appearance can be customized for different users and the information still used by larger systems.)

2.3 Structuring and Validating Information

To make it easier both to complete a form and use the results, it helps to structure and validate the information. Structuring means setting up the form so that information of different types (say text, dates, numbers) and relations (is the information about the person completing the form, an activity, an object) are separate. It helps to have a model of the data and/or process the form is meant to support: what kinds of information are needed, at what level of detail, from what sources. Structure is most important for semi-

and connected forms, but even for unconnected forms, with no associated processing, a well structured form helps people complete and review it.

Validating means checking that required fields have been filled out and with the right kind of information. Simple validation checks that required fields are filled out and the right data types used (for example, dates in date fields) and possibly ranges; more sophisticated validation calculates values and even compares entries to various tests.

2.3.1 Lists

A simple pre-emptive way to validate information is provide a list of acceptable values for a given field. Whether a pull down menu or checkbox/radio buttons, these are all controlled vocabularies. The advantage of these is consistent information that can be compared and consolidated across a set of completed forms and even between different forms and systems. The disadvantage is the effort creating the lists and the potential to frustrate users who do not find the values they expect.

2.4 Recordkeeping

When creating a form, consider the associated recordkeeping requirements and make these clear, either on the form itself or in an associated procedure. There should be no forms that lack clear instructions on whether the form is to be kept, how, by whom, and for how long. Note this is true of even electronic forms: archiving requirements can be an important part of system design. Some forms need to be kept only for the duration of the operation they document. Others need to be kept much longer. Some forms fall under Department of Energy (DOE) and other regulatory recordkeeping regimes. Check the DOE directives and federal, state, and local laws and regulations that apply to your program.

2.4.1 Confidential Information

Minimize confidential information, especially personally identifiable information (PII).

2.5 Forms and Processes

Every form is associated with at least two processes: one for completing the form itself and a larger one for which the form is capturing information. For example, take an expense report: there is a process for filling out and submitting the report, which is part of a larger process of being reimbursed for expenses.

When creating a form, think about the larger process the form is intended to support: what kind of information is needed, why, who needs to be involved, in what sequence. Developing a form should always start with mapping out and documenting the process it is meant to support. This usually means a procedure. This is particularly important for forms that relate to processes that involve several people. A clear picture of the larger process makes filling out the form, and understanding why it is needed, easier.

Forms that support more complex processes should almost always be the connected (or at least semi-connected) kind. Because the form is directly connected to a system it is easier to track the status of the process and use the resulting information.

Besides easier tracking of status and use of information, using a connected form may make it easier to consolidate several related processes. To realize this benefit, it is especially important to spend the time to

identify fully the larger processes and all its subprocesses, so one system can be set up to handle the whole process.

3 References

[SLAC Environment, Safety, and Health Manual](#) (SLAC-I-720-0A29Z-001)

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