Forms Design and Development
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Design Elements

Good forms design entails far more than simply adding lines and text to a blank page (or screen). It consists of a number of essential elements, generously interspersed with optional features and enhancements, all of which are intended to ease the tasks of both the writer and the reader of the form.

- **Graphics**

  Graphics, including company logos, diagrams, charts, photographs, screened areas, special font treatments and other such visual devices, when used with discretion and purpose, can add value to both the completion (writing) and recovery (reading) processes associated with form use.

- **Use of Color**

  Color offers benefits and pitfalls to the forms designer. Minimal use of color (spot color) is useful to highlight an area of unusual importance. Using too much color, on the other hand, tends to lose all the benefits of the second (or subsequent) color(s). *Focus* is the point of color. When too many points of focus are presented, the form user fails to see any of them as important. White space is often even more effective in guiding the user's eye than color. Clutter detracts from the form's purpose and diminishes its value. White space helps to define form areas.

- **Typography**

  Typography is the art of selecting the most appropriate type face, point size, arrangement, and presentation for the job at hand. Since forms are primarily intended to be communications devices, it is important that the type selected be effective – that means, completely legible, of an appropriate size, and subservient to the variable data that is captured by the form.

Plain Language

"Say what you mean and mean what you say." The old adage applies aptly to forms design. The forms designer who avoids using confusing, esoteric, legalese, obscure, superfluous, and techno-jargon text on a form greatly improves the chances of having the form immediately understood by both the writer and the reader. Plain language applies equally to caption text and to instructions for completion and form handling.

Graphical User Interface (GUI)

In the case of electronic forms, whether they originate on a local PC or via the Internet, care must be applied to ensure clarity. The natural variations in screen resolution, device peculiarities and viewing conditions forces the forms designer to find the display methods that will suit the widest audience. When a form is easily understood by the user, it is much more likely to be completed correctly on the first attempt.

Techniques

A wide variety of methods and techniques is available to the adept forms designer. Identification, selection and application of those that are appropriate is essential to the success of each individual forms project. Again, there is far more to be considered here than merely adding lines and text to a blank page or screen.

- **General Layout Principles**

  Basic layout principles include appropriate language conventions such as making the form read left to right and top to bottom. Other conventions predict standard information sequences; e.g., Name (Last, First, MI), Street Address, City, State, ZIP Code, Phone, Fax, Cell Number and eMail Address.

  - Zoning

    Gathering related elements of information into groups and positioning them in discrete areas on the form adds logic to the form layout. Not having to jump all over the form to find related data fields helps the writer understand the continuity of form requirements and the reader to comprehend more quickly the meaning of the information that is captured and transmitted by the form.

  - Balance

    Balance is primarily an aesthetic element in forms design. When a form "looks easy to use," it is much more likely to be completed correctly by the writer, resulting in a more positive reaction from the reader. Applying the appropriate emphasis to the form elements enhances the success of using the form.

  - Presentation Style

    Beyond the obvious conventions, a series of rules of thumb generally apply. For example, the structure of the form (rules, boxes, text captions, etc.) should *whisper* so that the variable data captured on the form may **shout**.

- o Spacing

  The spacing rule of thumb states that the length of data capture fields should be dictated by the expected length of the data to be entered, NOT by the size of the field caption. Providing adequate space for the anticipated entries ensures that the form is usable and reduces confusion, frustration and abandonment by the user.

- o Paper and Electronic Integration

  In many instances, particularly during periods of transition, it is possible that a form may exist in more than one format. Users with access to computers may use an electronic version of the form; whereas, users without such access may continue to use the paper version. In other cases, the environment of the user may dictate which version is appropriate; e.g. one user at a desk vs. another user at the top of a utility pole. In all cases, if the ultimate destination of the data captured is the same (e.g., a common database), then it is imperative that the content and sequence match from format to format, even if the presentation methods have been adjusted based on the media employed.

- o Postal Considerations

  One critical analysis question usually asked is whether the form (blank or completed) is to be sent from one location to another via "snail mail." If the answer is affirmative, then several factors must be considered, including the potential use of standard window envelopes, security of the data on the form (confidential information not showing through the window), size (to assure easy fit of the form into the envelope container), weight (to minimize postage costs), and the workflow (on both ends of the transfer).

- o Record and Data Retention Considerations

  While some forms serve a short, temporary purpose, others are retained for historical and legal reasons for long periods of time. Forms that have been completed become records. When those records are to be retained beyond their initial reading, they may fall under the purview of Records Management. Any time a form/record will likely be filed, care must be given during the design phase to the ultimate filing methods and requirements. Example: if the paper form is to be filed using a pre-printed consecutive number, then the designer should locate that number appropriately to facilitate filing; e.g., near the upper right corner of the form.

- o Testing and Review

  Prior to its release to users, each form (whether new or revised) must be tested to confirm that it performs as expected; that is – it captures and communicates appropriate data, is understood by both writer and reader, and complements the expected workflow. Thorough forms testing and content review is essential.

- **Paper Specifics**

  While many layout techniques apply equally to both paper and electronic forms, there are some that are mutually exclusive.

  - o Caption Placement

    In a paper-based environment, the processing sequence of writing the form is primarily controlled by the user's eyes; e.g., left to right, top to bottom of the page. In contrast, cursor movement on an electronic form, controlled by the designer, can alter that natural sequence flow. Caption placement on paper forms, then, when consistently applied, aids user understanding of how the form is to be written. Using standard conventions such as upper-left corner captions in boxes, checkboxes always to the left of related captions, vertically-aligned radio buttons, and table structures for repetitive data entries facilitate proper use.

  - o Manufacturing Considerations

    Specifications for forms to be manufactured must take into account requirements and restrictions imposed by the manufacturing equipment and processes. These include materials, margins, bindery functions, packaging, and other physical components that will be part of the manufacturing, transporting, storing, using, filing, and data recovery processes.

  - o Information Suppression

    Information suppression for paper forms requires employing physical measures such as short or narrow sheets, tear-off areas, printed blockouts, desensitized areas on carbonless products, repositioned perforations, and other methods for hiding or eliminating portions of the filled in data from specific subsequent viewers of the form.

  - o Printing Specifications

    Printing specifications for paper-based forms define the materials and operations to be performed to ensure proper functionality for the finished product. Paper weight, type, and color; ink color(s); appropriate bindery functions such as drilling, trimming, binding, gluing and die cutting; packaging, including number of sheets per set, number of sets per book or package, number of packages per carton, number cartons per pallet; along with proofing and shipping requirements are all part of the manufacturing specifications. Other factors, such as which copy (layout) goes onto the face or back of which page, pricing, and other contract specifics round out the transaction components.

- o Other Components

  Special considerations, including bar codes, security features, consecutive numbering, form-label combinations, drop-out inks, and other non-standard features may also become part of the specifications.

- **Electronic Specifics**

  Although the intent and layout of the electronic form may closely parallel the paper version of the form, specifics differ substantially between the formats.

  - o Interface Design

    Since the electronic form may or may not ever migrate to paper, the user interface with that form requires special consideration.

    Field Help: User instructions and help screens may be contained in dropdowns or tool tips that are accessed only when needed by the user, obviating the need to usurp valuable real estate on an electronic form.

    Masks: The format of entries that will be uploaded from the capture document to a database may be controlled through masks, which force format rules, including capitalization, digit population and other conventions.

    Selection Methods: Users may make selections from dropdown lists, mutually-exclusive choice options, field defaults and other methods, as well as by typing in the field data directly.

    Field Formatting: Fields capturing data like telephone numbers, ID numbers, dates and times, amounts and other specific data types may be controlled by the form designer to ensure that the user provides information that is usable in the post-forms completion workflow.

    Interface Formatting: Ensuring that data from an electronic form interfaces properly with related fields in the business system being fed by the form falls within the control of the form designer. Such interface points may be forced into compliance with the needs of the business application without harming the workflow of the form itself.

    Menu Planning: Careful planning of the contents and positioning of the elements in the menu (list of forms and/or transactional functions to be performed) encountered by the user of a group of electronic forms assures that the appropriate form is selected by the appropriate user and that the appropriate workflow is satisfied.

    Ribbons and Action Buttons: Various workflow functions may be automated for electronic forms. Often, the most effective way to present these options to the user is to provide a series of action buttons. These buttons control such operations as save, print, submit, and send email and while they may be visible on the screen they are not necessarily included when the form is printed.

    Information Suppression: is much easier in electronic forms than in their paper counterparts. Screens may easily be devised that simply do not included selected data fields within specific "views" of the form. Workflow controls who, or what application, has access to which information from the form.

    Development Specifications: Similar to the manufacturing specifications that are required for paper forms, development specifications are required for electronic forms. Specifics about operating systems, form layout, field lengths, database and application interfaces, printers, routing, security, accessibility and other factors are included in the development specifications.

    Other Components: Under certain circumstances, other esoteric requirements and/or restrictions may be imposed on electronic forms for policy or legal reasons.

  - o **Application Development**

    The old seven-word adage applies to form systems application development: "Proper Prior Planning Prevents Pitifully Poor Performance." Many components go into the building of an effective forms application. Following are some of the most important of these.

    Tabbing Order: Cursor controls that dictate the sequence of data fields to be filled in by the writer help to ensure that critical information is not accidentally overlooked.

    Compulsory Fields: Earmarking specific fields as "required" and not permitting final completion of the form's processing any time data is missing from those compulsory fields helps avoids the need for the user to "do-over" the form, saving processing time in the long run.

    Data Validation: Techniques are available to forms designers to validate certain types of data, including dates, amount ranges, spelling, data formats and user rights. These should be employed as appropriate.

    Database Administration: To ensure that the data captured by the form(s) is compatible with the target database(s), the designer must take care to use field names exactly as they appear in related fields in the database(s). Mismatched naming conventions lead to a disconnect between the form(s) and the database(s).

Security: Ranging from simple access passwords through various sophisticated methods of data encryption, security within transactions is often critical to the success of the electronic form. The designer builds in these security features as the forms are being designed.

Routing and Tracking: Workflow of the business system may be forms supported by controlling routing of the partially or totally completed form from one user to the next and by tracking the progress of the form within the workflow until it's ultimate purpose has been satisfied.

Decision-Tree Matrices: Another workflow technique that is helpful in designing forms to operate in a business systems is the decision-tree matrix. Simply put, this chart identifies players, prerequisites, actions, correction routines and timing for each portion of the business transaction the forms support.

Macros and Scripting: Unlike paper forms, where the workflow is generally manual, electronic forms may include macros which accomplish routine tasks automatically and scripts to facilitate pre- and post-processing tasks.

Application Integration: Smooth operation within an application is more likely when the forms used by that application are carefully integrated to avoid operational conflicts.

Other Components: While these are the primary considerations, exceptions prove the rule and must be recognized and honored if the business system is to benefit.

Note: This information may be useful to a forms professional preparing for the Certified Form Systems Professional examination offered by Business Forms Management Association. http://www.bfma.org/certification/CFSP.htm