**Hand-out: Dashboard design checklist**

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| **Steps** |  | **Instructions** | |
| Define the *scope*  *Role*  *Time horizon*  *Customization*  *Level of details*  *Point of view* |  | ☐**Broad**: Displaying information about  the entire organization  ☐**Strategic**: Provides a high-level, broad, and long-term view of performance  ☐**Historical**: Looking backwards to track Trends  ☐**Real-time**: Monitoring activity as it happens  ☐**One-size-fits-all**: Presented as a single view for all users  ☐**High**: Presenting only the most critical top-level numbers  ☐**Prescriptive**: The dashboard explicitly tells the user what the data means and what to do about it | ☐**Specific**: Focusing on a specific function, process, product, etc  ☐**Operational**: Provides a focused, near-term, and tactical view of performance.  ☐**Snapshot**: Showing performance at a single point in time  ☐**Predictive**: Using past performance to predict future performance  ☐**Customizable**: let users create views reflecting their needs  ☐**Drill-able**: Ability to drill down to detailed numbers to gain more context  ☐**Exploratory**: User has latitude to interpret the results as they see fit |
| Define the form |  | Dashboard comes in many forms. Select the form that fits the need of the situation (forms follow function/ is constraint by the function).Parameters are::   * **Timeliness**: How frequently is the data in the dashboard updated? * **Aesthetic value**: How important is it that the dashboard looks attractive, or can it be purely utilitarian? * **Mobility**: Does the audience need to access the information on-the-go? * **Connectivity**: Does the dashboard need to connect to live data sources? * **Data detail**: Will the dashboard offer an ability to drill down to see more context? * **Data density**: How information-rich will views of the data be? * **Interactivity**: Will the user benefit from interacting with the dashboard? * **Collaboration**: Is it important that your audience be able to easily share and collaborate on the dashboard?   The following table assess 6 forms of dashboard by their effectiveness in addressing the above mentioned parameters: | |
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| Structure |  | * Do not slot charts into a grid. Rigid or symmetric structures don’t tell how different charts relate to each other; offer no clue as to where to begin understanding the data and nothing about what information is most important. * Structure and layout shape how the audience will understand the big picture and how smaller pieces relates to each other’s, and serve as a navigational system for the user. It shows where to start, and where to go next.   Three classic structure for dashboard include:   * Flow-based: emphasizes a sequence of event or actions or metrics across time or specific order (rank, interval, severity, etc.) * Relationships: emphasizes the relationships between entities or measures in a mathematical, geographical, organizational or functional way. * Grouping: emphasize related information into categories or a hierarchy | |
| Design tips for dashboard |  | * Compactness/modularity: Dashboard is broken into bite sized pieces, each built around a key question. Filters are selected at the top that reshape the whole dashboard according to the requested information. * Gradual reveal: Reveal information as the user expresses interest. Don’t bombard the user with all the information at once. We frequently use levels of increasing detail from (a) key metric to (b) context around the metric to (c) full breakout detail for the metric. * Guide attention: It isn’t good enough to make the information available; you need to use visual cues and functionality to draw the user to the things that matter most. A few mechanisms that can help are alerts, positioning on the page, and careful use of color and fonts. * Support casual use: Minimize the barrier to entry for new users by avoiding feature overload, minimizing clicks for each task, and providing clear, concise descriptions of what things mean. * Lead to action: Empower the user to finish their task quickly and/or understand the action that should be taken based on the results. You can build in explicit guidance about what a change in a metric means, or who to contact to address an issues that is highlighted in the dashboard * Customizable Build in flexibility to allow the dashboard to become relevant for different users. The most common way to allow users to customize the dashboard is by defining the scope of the data using filters. There is more that can be done: Does the dashboard let the user save a view of the data that they’ve configured? Does it offer easy ways to tag or highlight things that are important to them? * Explanation before information: We need context and explanation to understand new and unfamiliar events. For many dashboards, there is time to interpret the results and provide a summary before presenting to your audience. Letting the data speak for itself can be a recipe for misinterpretation and confusion. | |
| Functionality |  | * Basic common features include: * Drill down: Ability to go from a summary metric or view to additional detail that provides more context and/or breakout of the information. * Filters: Allow users to define the scope of the data in the dashboard to reflect their needs. Filters can either be global (refining scope for the entire dashboard) or local (refining scope for a specific chart or metric or view). * Comparison: Ability to see two or more subsets of the data side-by-side. A line chart, for example, may let the user view two geographic regions as separate lines. * Alerts: Highlight information based on pre-defined criteria. The alert may be activated when a metric goes outside of a particular threshold. * Export / print: Give users the ability to pull information out of a dashboard. Export to formats that let users do more with the data like Excel and CSV rather than PDF. * Advanced features include: * Text-based summary: Automatically generated textual description of the key information in the dashboard. This can be as simple as a sentence that includes a couple important data points. * Text-based summary: Automatically generated textual description of the key information in the dashboard. This can be as simple as a sentence that includes a couple important data points. * Save / track changes: The more a user configures a dashboard to their unique needs, the more important it becomes to allow them to save what they have created. * Advanced visualizations: If it is useful to show more complex data in the dashboard, a variety of advanced visualizations can help make it digestible. A few visualization types to consider include geographic map, treemap, network diagram, tag cloud, scatterplots and bubble charts. But be careful, using complex visualizations incorrectly can leave your audience feeling lost and confused. | |
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| Interface design |  | * Simplicity is the primary goal. Limit visual clutter to help users easily navigate and understand the content. * Organize the page: The little things in a dashboard can make a big difference—like where you place the key metrics, where you place charts, and how much information you try to fit into a page. * Pay attention to attention: Position the most important information where people look first. Users look first for information on the top and left. Users also focus their attention down the left side. The center gets a fair bit of attention as well. But the bottom and right may not be noticed by your user at all. * Grids: Ensure that key lines in their designs align. * White space: We don't just see objects themselves; we also see the space that is not there. Maximizing dashboard real estate must also mean creating places for the eye to "rest" so that the non-white space has more impact. When we don't have sufficient spacing, everything runs together and we can't see what is most important. White space can be used to delineate sections or help users see groupings of content in a dashboard. Using white space may mean sacrificing one extra chart or metric, but it can make a huge difference in user comprehension. * Color: Appropriate use of color requires restraint. Start by using only grey, then gradually add color where it conveys useful information. Color can draw your eye to what is important and tie together similar things. For example, if we increase color brightness, it will attract attention and make a point seem more important. Similarly, use of the same color hue can be used to connect things that are related. At a more subtle level, the color scheme we choose can evoke an emotion or feeling about the dashboard. * Font: The majority of text on the dashboard page falls into four categories: Body text is clean, readable content. Headers separate and name major sections of your work, Notes describe additional things the reader should be aware of. These should fade into the background unless we call attention to them. Emphasis text is what we want our reader to pay particular attention to. * Three decisions need to be made: 1. Choose size and font of the body text 2. Decide if the header is going to flip to serif or sans-serif—and whether it is going to have any style. 3. Decide what to do about emphasis—color or (bold or italic) | |
|  |  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | Purpose | Size | Font | Color | Style | | Body | Clean readable text. 50-80% of your text will look like this | 10-16pts | Sans-serif: Arial, Tahoma, Verdana  Serif: Georgia, Times | Neutral | Normal, no bold, no italic.  1,2 line spacing | | Header | Separate and name major sections of your writing | 150-200% of body | Same as body or flip serif/sans-serif | Neutral | Normal, bold or italic. Whitespace above | | Notes | Additional things a user should be aware of. Fade into the background | 85% of body | Same as body | Deemphasized, lower contrast | Normal, no bold, no italic | | Emphasis | Draw the eye to key points you need to make | Same as body | Same as body | Choose one | | | High impact color | Bold or italic | | |
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| Information display |  | * Use the eyes’ visual processing power * Eliminate clutter and distraction * Group data into logical sections * Highlight what’s most important * Support meaningful comparisons * Ensure readers can judge performance * Select best medium for display * Use appropriate charts and graphs * Refer to the effective chart design checklist for more details | |
| Avoid common mistakes |  | * Exceeding the boundaries of a single screen * Supplying inadequate details for data * Displaying excessive details or precision * Choosing a deficient measure * Choosing inappropriate display media * Introducing meaningless variety * Using poorly designed display media * Encoding quantitative data inaccurately * Arranging the data poorly * Highlighting important data ineffectively or not at all * Cluttering the display with useless decoration * Misusing or overusing color * Designing an unattractive visual display | |
| Assess your dashboard |  | * Can you evaluate what is going on? * Is it easy to spot the areas that need attention? * Does it provide context? * Is it easy to make sense of the organization? * How does this tool support better monitoring and decision making? | |