Workshop: Brainstorming Session

Topic: Dashboards in BridgeIT
Session: 1
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Location: Bracknell, Windsor Room

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Introduction

As part of the BridgeIT programme, there is a requirement for us (Engineering) to change the way we present dashboards on all screens resolutions to both System Analysts and End-users. This document captures the brainstorming session and high level discussions in the meeting.

It’s essential that our brand brings to life our mature product range and delivers this in a contemporary way. LANDESK has taken time to learn from its users from what’s good about our software, build on the recognition of its provenance, and to fine-tune it to make it accessible and relevant in the contemporary world.

Agenda of discussion:

What is a dashboard?

What determines a dashboard to be a dashboard and not a view?

When/How are dashboards used and by whom?

How are dashboards designed by our customers?

Important segments of a dashboard

Types of dashboards

Customisable dashboards

What kinds of interactions do we need to support?

What data should we display?

Drilling into the data (gadgets)?

Moving on from user controlled/designed dashboards

Dashboard design concepts (possibilities of design)

Examples of good dashboards

Limitations and constraints

Other areas of considerations

Possible areas of discussion

What is a dashboard?

- A dashboard is a visual display of the most important information needed to achieve one or more objectives, consolidated and arranged on a single screen so the information can be monitored at a glance.
- Dashboards have the purpose to serve one specific role by giving it a well-structured overview over a dedicated area with focus on and visual guidance to important business facts and the possibility and guidance to navigate to further details and resolution applications.
- A dashboard organises and presents the most important information from large amounts of data in a way that it is easy to read and understandable for the user. Dashboards summarize information and focus on changes and exceptions in the data.

What determines a dashboard to be a dashboard and not a view?

Characteristics of a dashboard:

- Visual displays.
- Displays the [most important] information needed to achieve specific objectives.
- Fits on a single computer screen.
- Monitor information at a glance.
- Have small, concise, clear, and intuitive display mechanisms.
- Tailored specifically to the requirements of a given person, group, or function.
- Can be fixed columns and rows or flexible and scalable.
- Can have fixed elements or movable elements.
- Can look ridged (visible boundaries) or subtle (no boundaries).
- Responsive dashboards that can adapt and display data in any screen size.
- The design can be very minimalistic and simple, but still aesthetically pleasing.
- The most important information alerts the user
- Important gadgets are listed at the top of the dashboard where user usually looks first.
- The middle section has mid valued gadgets.
- Fit the information on a one page.
- Provide the key information from different sources quickly and easily to the user. Therefore the data should be shown on a single screen, preferably without scrolling.
- Clean and simple to make it easy to scan and understand.
- Customisable for its users.
- High-level, quickly-consumable overview of the current state of a large set of information that usually needs to be tailored to them.

When/How are dashboards used and by whom?

- There is important, real time information from one or more sources that needs to be monitored regularly.
- There is a lot of data and you need to point out something that deserves attention and might need an action.
- To provide high-level summaries of the data. Tell what is happening, not why it is happening, but provide a possibility for the user to drill down deeper into details.
- Focus on changes and exceptions in the most critical data. Often the most important information to the user is unusual changes from normal situation.
- Organise the content into meaningful groups to support its use.
- To use visual elements consistently and as little as possible, and highlight only data that needs attention.
- Understand the users and their goals to be able to select the most important information to them to achieve their objectives.
- Selecting the best display mechanisms for communicating the data clearly and efficiently.
- Use text, graphs, icons, images, tables etc.
- Use gadgets that allow users to see related data at once to make comparisons.
- Used mainly by Support Analyst to graphical and textural information to perform their jobs and support the business. This could be “Outstanding Breaches”, “Current workload”, or even progress on open and closed incidents.
- Dashboard makes users’ life easier, helps them make good decisions, and saves a lot of time, increasing productivity.

How are dashboards designed by our customers?

- System Administrators set out the privileges on the console to allow Support Analysts to create Gadgets and display them on the dashboard.
- Gadgets are created and the user (Support Analyst) who specify the number of columns and if they want the height fixed or flexible.
- Usually designed for 3 column layout.
- Usually designed with row spanning and column spanning.
- Pre-defined queries and gadgets are available, or designed by user.
- Some are well-designed dashboards, others are out of the box (simple).
- Bulletin board are normally fixed to the top of the dashboard and the user is free to add any other gadgets to the dashboard.
- Gadgets are those of tables and charts
- Count gadgets can be added on specific areas of breaches and incidents

Important segments of a dashboard

The role a dashboard plays, whether strategic, analytical, or operational, has the greatest impact on its visual design.

- The design characteristics of the dashboard can be tailored to effectively support the needs of each of these roles.
- The primary use of dashboards today is for strategic purposes.

- They provide the quick overview that decision makers need to monitor the health and opportunities of the business. Dashboards of this type focus on high-level measures of performance, including forecasts.
- Extremely simple display mechanisms work best for this type of dashboard.
- Most dashboards primarily display quantitative measures of what's currently going on.
- These measures are often expressed in summary form.
- Dashboard design are to make the most important data stand out from the rest, and to arrange what is often a great deal of disparate information in a way that makes sense.
- Display the data as clearly and simply as possible, and avoid unnecessary and distracting decoration.
- When designing dashboards, you must include only the information that you absolutely need, and you must condense it in ways that don't decrease its meaning.
- Display it using visual display mechanisms that can be easily read and understood.
- Dashboards tell people what's happening and should help them immediately recognize what needs their attention.
- Arrange many items of information—often related solely by the user's need to monitor them all—in a manner that doesn't result in a cluttered mess.

Types of dashboards

- Scalable
    - Ability to enhance the system by adding new functionality at minimal effort.
    - The application scales to accommodate new features.
    - Dynamic components that take content resizing and varying amounts of content into account can ensure a layout that scales with the content.
- Fixed
    - Fixed layout are much easier to use and easier to customize in terms of design.
    - A fixed layout may create excessive white space for users with larger screen resolutions
    - Smaller screen resolutions may require a horizontal scroll bar
    - Fixed-width layouts generally have a lower overall score when it comes to usability.
    - Gadgets will and will not fit in the accommodated area of a fixed approach
- Soften look and feel
    - Appeasing to the eye and visual alignment is coequal
    - No borders on the individual block elements
    - No dividers between columns and rows
- Rigid look (visible dividers)
    - Each gadget is an individual item
- Intelligent (sortable blocks)
    - Movable gadgets that refactor themselves in an order that makes them fit the screen layout
    - Grouping is easier
    - Important elements may need to be placed off the top shelf

- Responsive
    - Fit all screen sizes
    - Intelligent elements resize/reshape to fit screen size
    - Unable to read the important information
    - Resize may not be according to the layout you desire

Customisable dashboards

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What kinds of interactions do we need to support?

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What data should we display?

Here is a set of questions that we must answer to understand the users.

- What is a particular user's main reason for visiting the dashboard?
- Is the user making a decision or reacting to specific events or situations?
- What triggers a user's visiting the dashboard?
- What happens that prompts the user to view the dashboard?
- Is there some information the user would routinely review at the start of a work day? Or would a user go to the dashboard in response to a system-generated email alert?
- How frequently would a user visit the dashboard? Once a week or several times a day?
- What is a user trying to assess?
- What critical decisions does a user have to make? For example, would the dashboard inform the user about any reallocation of resources? If so, it needs to make the most critical information available to help the user make an informed decision.
- Are there conditions of which we need to alert a user? For example, a Support Analysts control dashboard might alert the user that a critical parameter is down, like a service which effects many users. This is similar to the gas gauge or engine-temperature gauge on a car's dashboard, which not only informs a user about a quantitative state, but alerts the user.

Drilling into the data (gadgets)?

Here is a set of questions that we must answer to understand the users.

- What are the critical must-see or must-do items? User would give these items prominent placement and stronger visual treatments.
- What is the likely flow of a user's focus?
- Is there a logical grouping scheme?

- Would a user want to compare some data with other data? Place comparative data side by side.
- Would users want to drill down to more detail? For example, if a chart aggregates data, might a user want to see the respective sources of that data?
- Would users want to solve an identified problem? For example, if a dashboard alerts a user to a fault, would the user want to open a support ticket?

Moving on from user controlled/designed dashboards

- Currently we allow the users to design their dashboards and create gadgets which the user determines height, width and placement.
- Should we adopt a new design strategy, something that allows the users to move the elements around?
- How would we do this, what are the possibilities?
- How complex would this be?

Dashboard design concepts (possibilities of design)

- We could potentially treat the elements (gadgets) as building blocks and allow the user to choose which block should fit where.
- How about opening the possibilities of choosing a gadget first then choosing the dimensions to fit the gadget.
- Give the Analyst a wider choice to allow them to do all the possibilities.

Design and layout ideas that should be considered:

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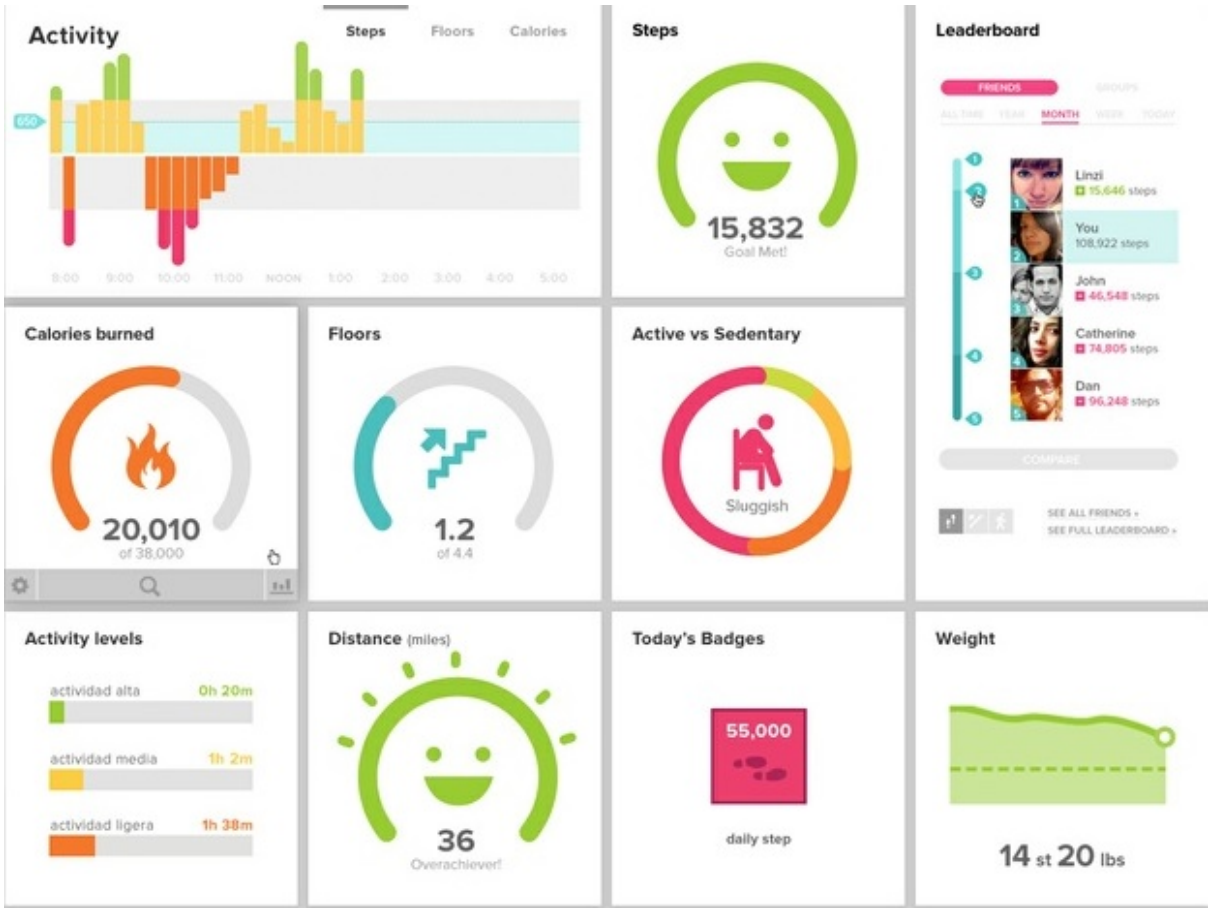
Examples of good dashboards

Examples that were shown are:

http://www.fitbit.com/uk



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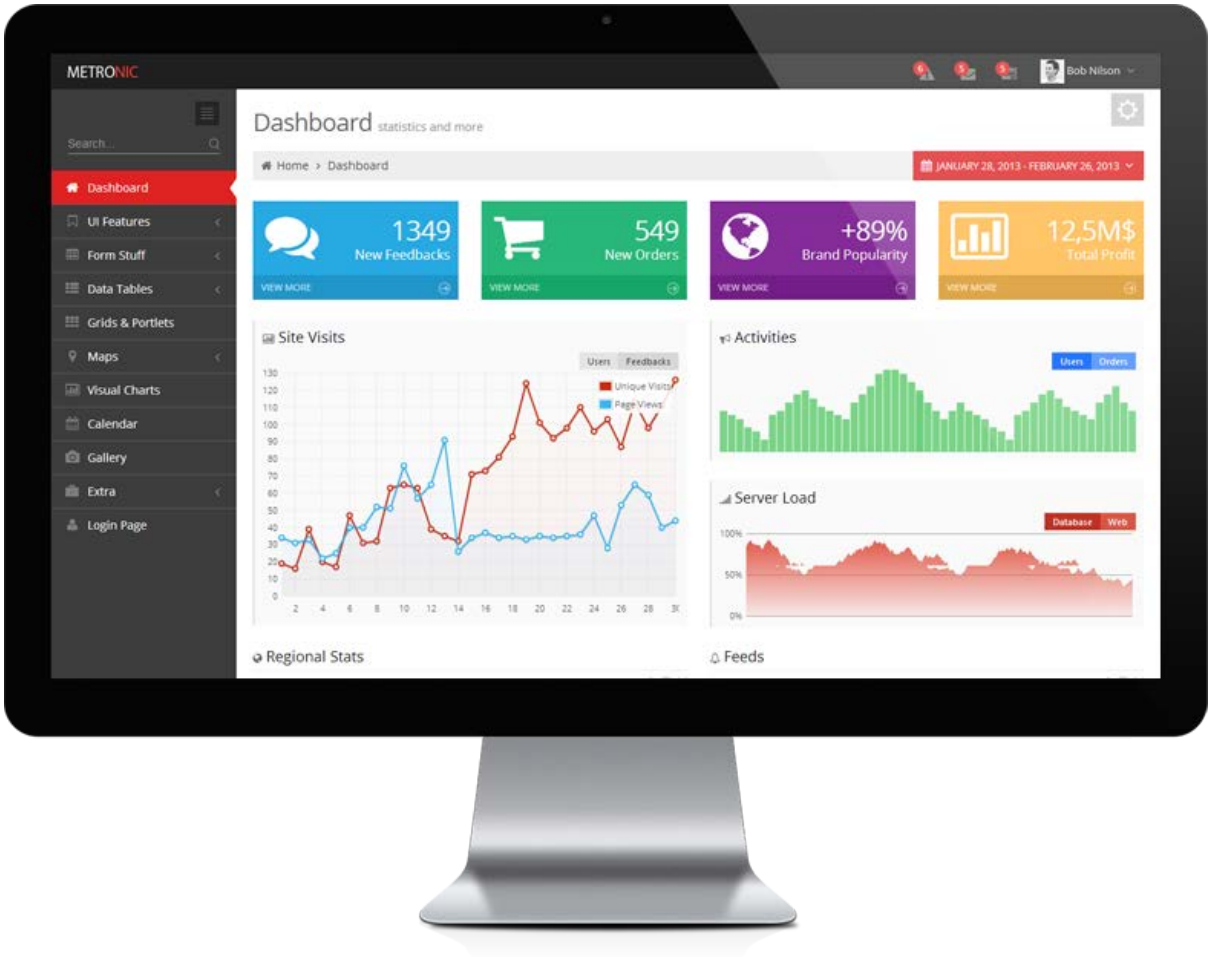

Zurb Foundation?

Limitations and constraints

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Other areas of considerations

- Possibilities to make all the pages like that of a dashboard.
- If you look at a page you will notice that each page are elements of data, organised on the screen. What makes them any different to a dashboard if you remove the concepts of a gadget and just focus on the structure?
- They are the same, so the possibilities are endless and you could make each and every page like a dashboard and allow the administrators to change them around.
- An example of such a case would be when raising a new incident, how about having an element that lets you see the user and all the user details. Like a profile element.

Possible areas of discussion

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