

AGENDA

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INTRODUCTION

The goal of this research effort was to selectively assess the usability of FUXP. Specifically, the design team was interested in identifying crucial violations of design best practices. To meet these goals, a heuristic evaluation was conducted using the FUXP Version 1.0.0.

Four junior designers conducted a heuristic evaluation, a usability inspection method where a number of usability experts evaluate the user interface of a product against a set of Heuristic Principles. Heuristics are a well-established, proven set of guidelines that result in good interface design when adhered to.

The designers identified **78 usability violations in approximately 2 hours of evaluation each.**

NEILSON'S 10 DESIGN HEURISTIC PRINCIPLES

Jakob Nielsen's heuristics are the most widely used usability heuristics for user interface design.

EVALUATION OF UNDERSTANDING

1. Consistency & Standards
2. Use Familiar Metaphors & Language
3. Clean & Functional Design

EVALUATION OF ACTION

4. User Control & Freedom
5. Flexibility & Ease of Use
6. Recognition Over Recall

EVALUATION OF FEEDBACK

7. Visibility of System Status
8. Prevent Errors
9. Support Error Recovery
10. Help & Documentation

SEVERITY RANKING

Each heuristic violation is graded using the following ranking system:

- **Cosmetic Issue** – Affects the appearance and should be fixed only if time permits
- **Minor Issue** – Hinders the user's ability to navigate and should be fixed when possible
- **Major Issue** – Frustrates or confuses users and requires repair as soon as possible
- **Catastrophic Issue** – Prohibits users from performing their given task and requires an immediate modification

SUMMARY STATISTICS

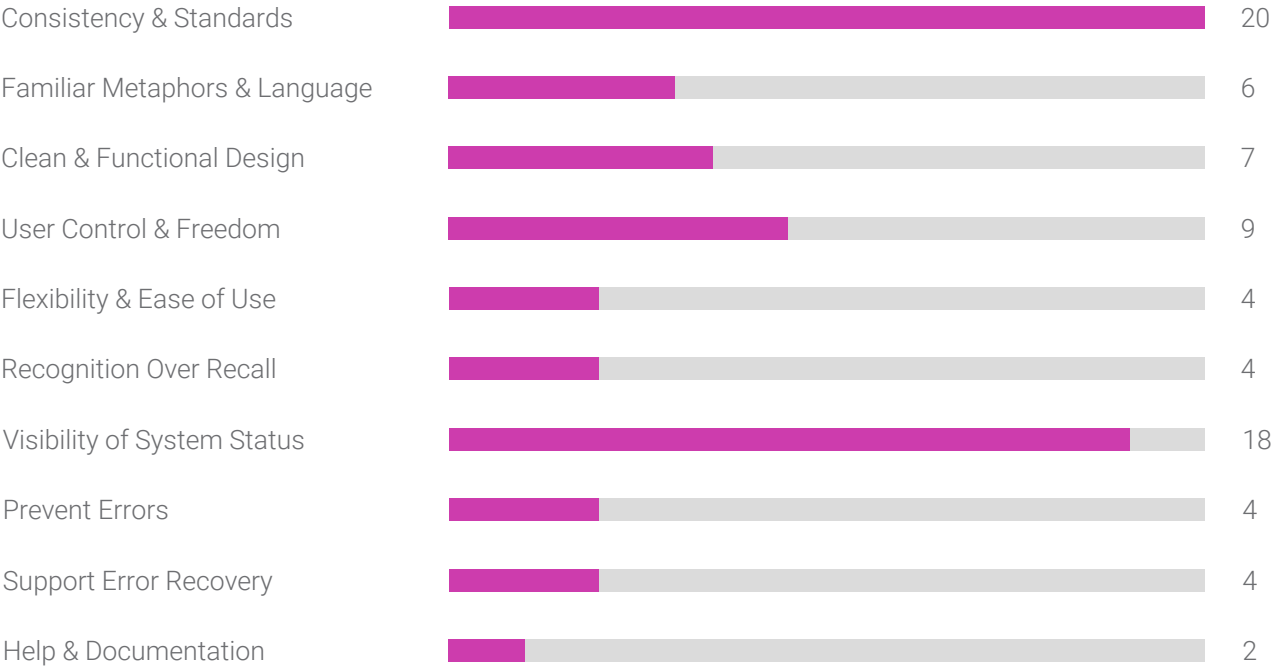
78

total violations were found by 4 designers during an evaluation period of about 2 hours each.

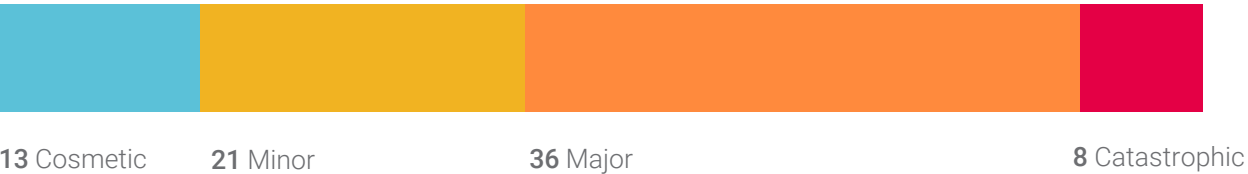
46%

of the violations are **major** usability issues.

Number of Violations by Heuristic Principle



Number of Violations by Severity Ranking



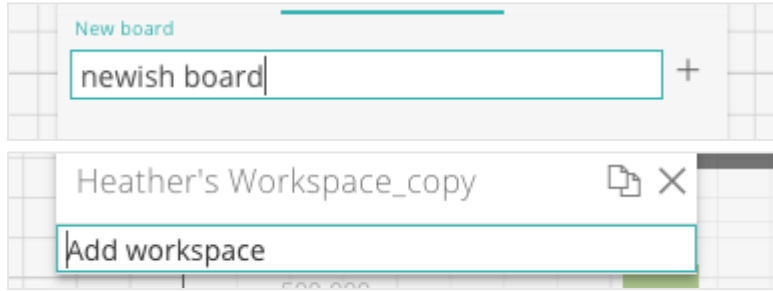
EVALUATION OF UNDERSTANDING

CONSISTENCY & STANDARDS

Users should not have to wonder whether different words, situations, or actions mean the same thing.
Follow platform conventions.

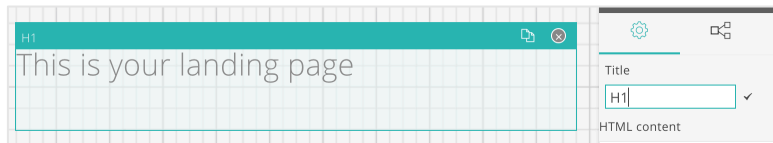
CONSISTENCY & STANDARDS

EXAMPLES

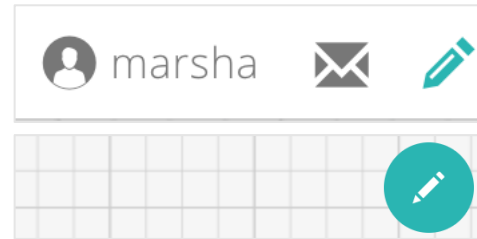


- **Major:** When users name a new board, they have to click the [+]. They cannot apply their change by clicking "enter".

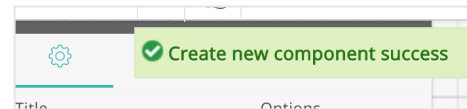
However, when users add a new workspace, they have to hit "enter". There is no [enter] button present.



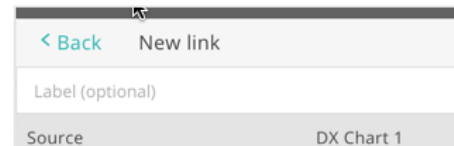
- **Major:** The Title field in the component configuration panel keeps the user in an active Title field even after hitting "enter".



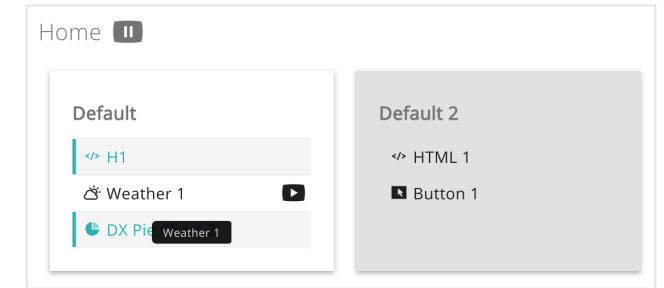
- **Major** - ● **Catastrophic:** The same icons are used for different purposes. Here, The same icon is used for both "design/edit" and "components".



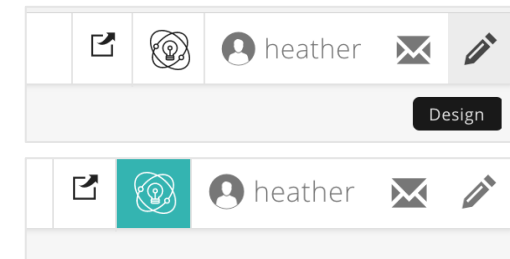
- **Major:** Confirmation messages do not always appear for all actions.



- **Catastrophic:** During linking, saving is done by clicking the "back" button.



- **Major:** Inconsistent status representations. Paused boards are greyed out, while paused components are whited out.



- **Minor:** Tool tips do not consistently appear when user hovers over icons.

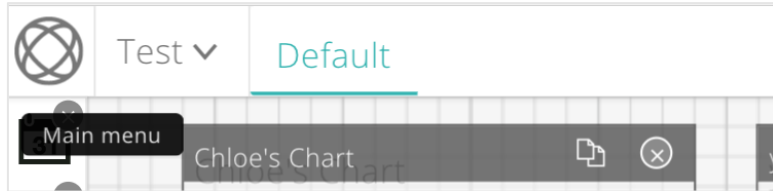
EVALUATION OF UNDERSTANDING

FAMILIAR METAPHORS & LANGUAGE

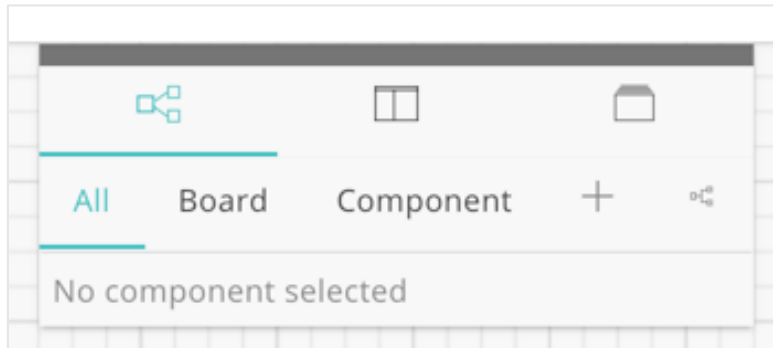
The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

FAMILIAR METAPHORS & LANGUAGE

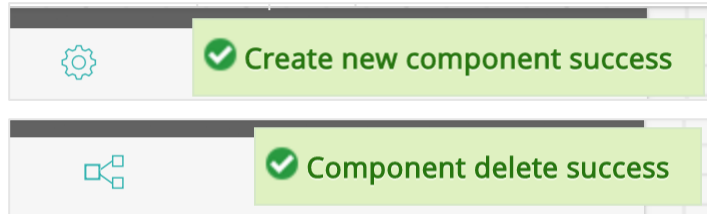
EXAMPLES



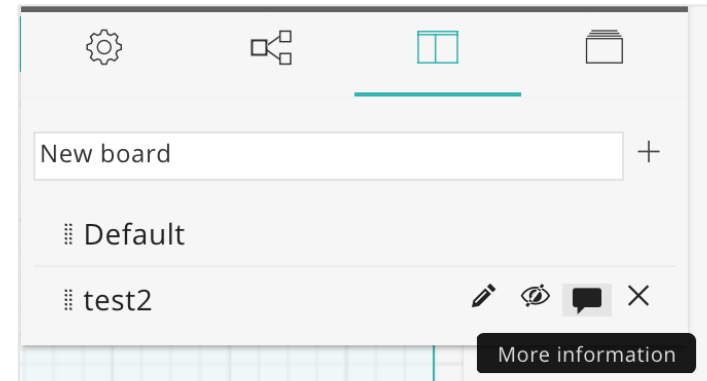
- **Major:** The Misys logo represents the settings menu. Conventionally, this represents a main menu or navigation.



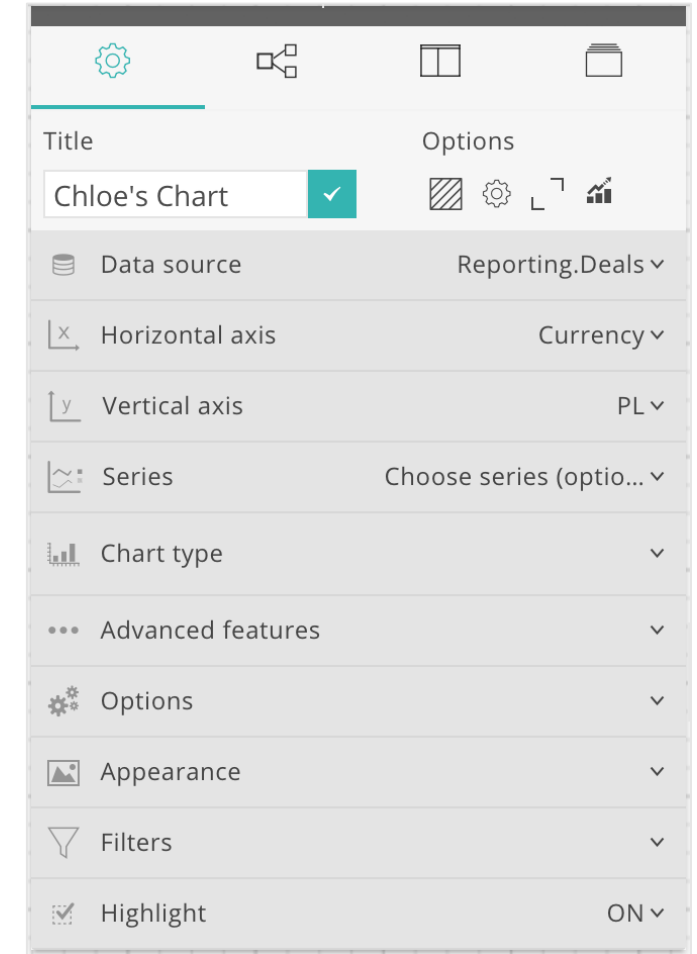
- **Major:** Discoverability of the dragging functionality of the configuration board is poor.



- **Minor:** Notifications do not read like natural phrases.



- **Minor:** This icon conventionally stands for "comments". But here, it is used for "More Information".



- **Minor** - ● **Major:** The options and associated controls in the configuration panel are not intuitive.

EVALUATION OF UNDERSTANDING

CLEAN & FUNCTIONAL DESIGN

Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

CLEAN & FUNCTIONAL DESIGN

EXAMPLES

Create a new board

Name

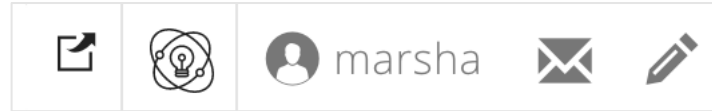
Name

Choose a layout

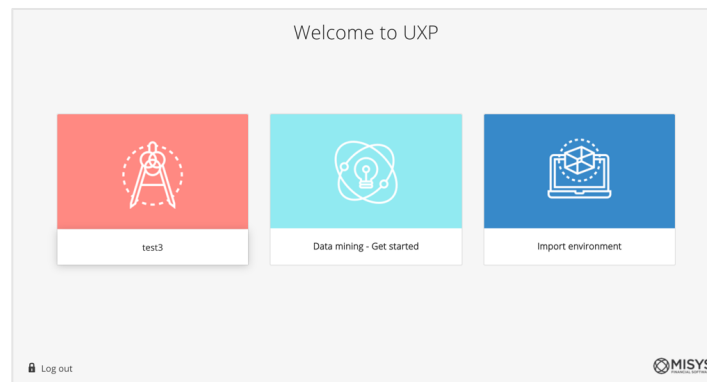
Cancel

● **Catastrophic:** It is not immediately obvious that the user has to enter a name for the board before they can confirm any actions.

● **Minor:** It is not obvious that "Name" is only a placeholder, and text needs to be entered here.

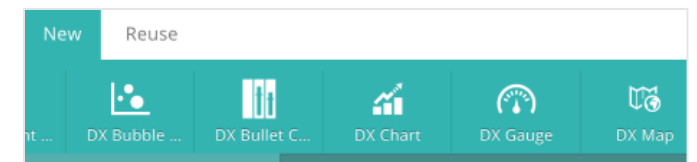


● **Major:** The importance of the "edit mode" button is not clear — there is no visual hierarchy.



● **Major:** While creating a new workspace, there is no call-to-action (CTA) to indicate how to move forward.

● **Minor:** There is not enough contrast or visible dividers to distinguish where the user is in the menu navigation.



● **Cosmetic:** There is no organization or hierarchy within component types. For example, the different chart types are not co-located.

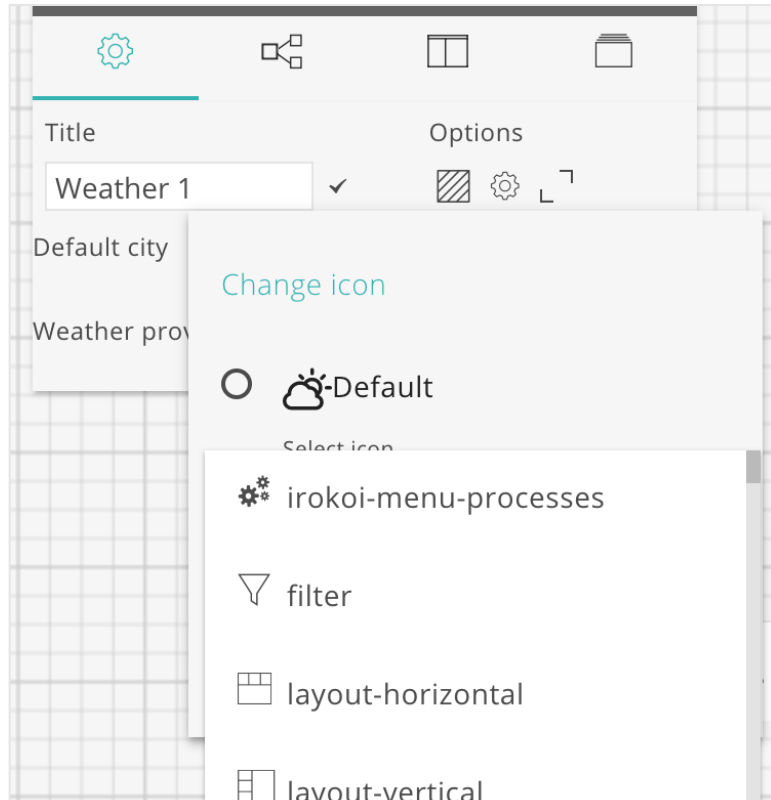
EVALUATION OF ACTION

USER CONTROL AND FREEDOM

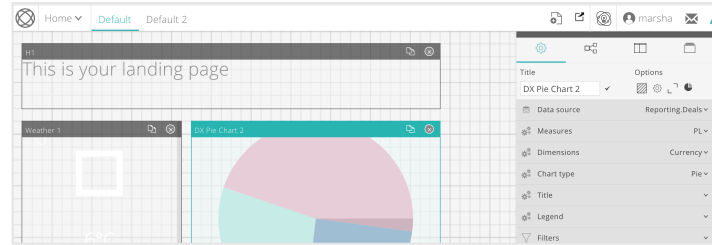
Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

USER CONTROL & FREEDOM

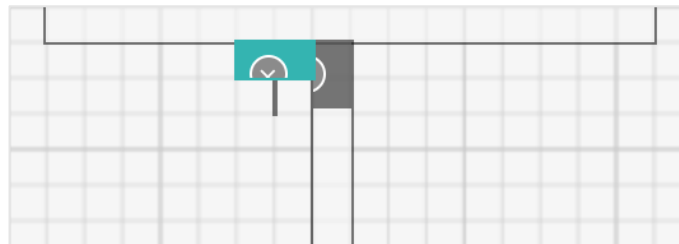
EXAMPLES



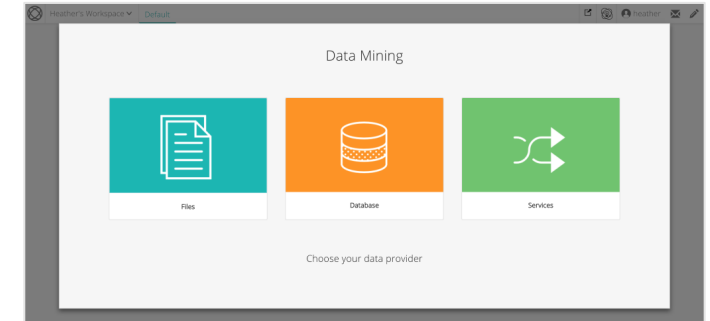
● **Catastrophic:** If the user opens this dropdown and wants to close it, there is no way to do so without first making a selection.



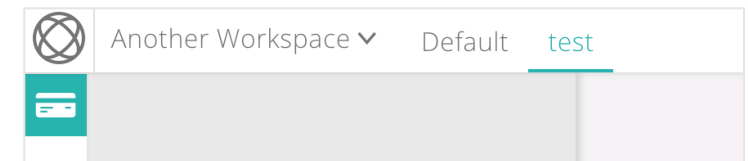
● **Catastrophic:** The system does not support undo/redo, or ctrl + z. Users cannot reset the board back to its default state in edit or preview mode.



● **Major:** Accidental boards are too easily created when the user attempts to resize other boards. These new boards are often so small that core functionality CTAs are obstructed.



● **Major:** There is no marked way to leave this overlay without making a selection. Once a user clicks an option, there is no way to return to change the selection.



● **Major:** Users struggle with closing the bottom and side panels without an obvious close or exit action.

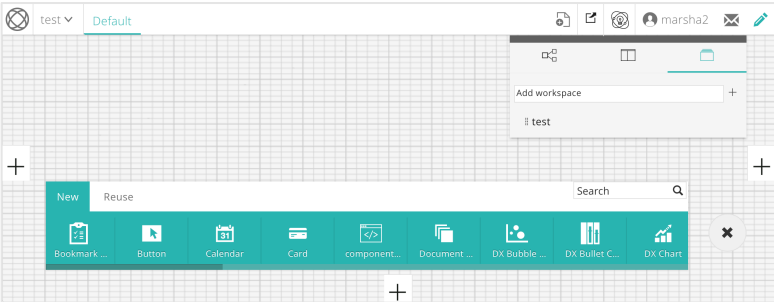
EVALUATION OF ACTION

FLEXIBILITY AND EASE OF USE

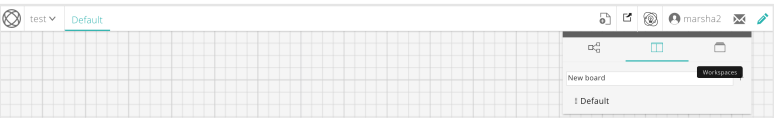
Accelerators — unseen by the novice user — may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

FLEXIBILITY & EASE OF USE

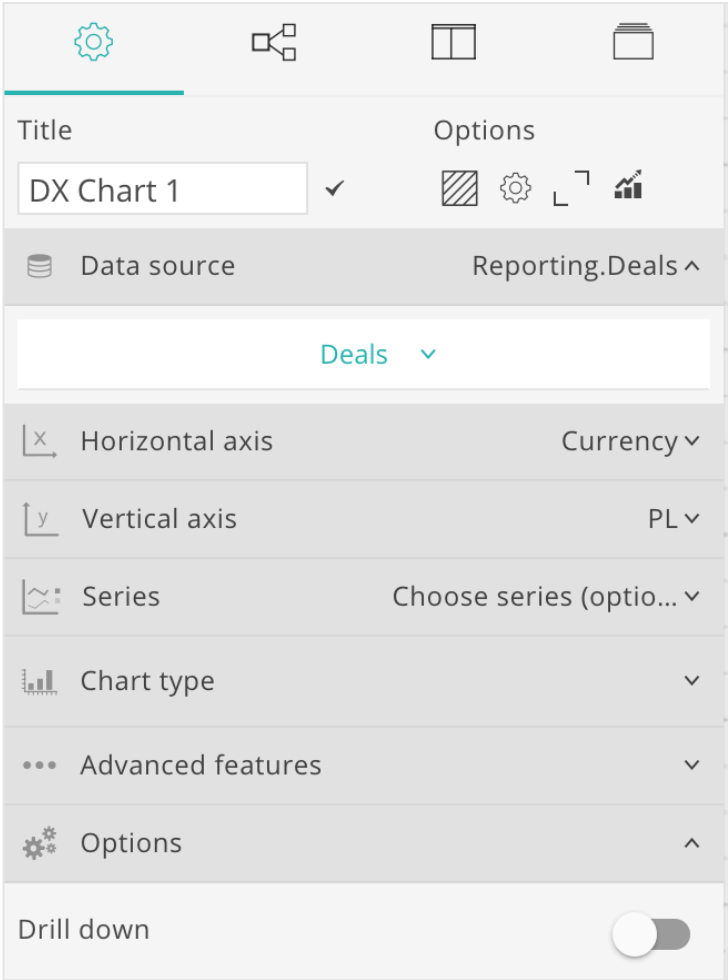
EXAMPLES



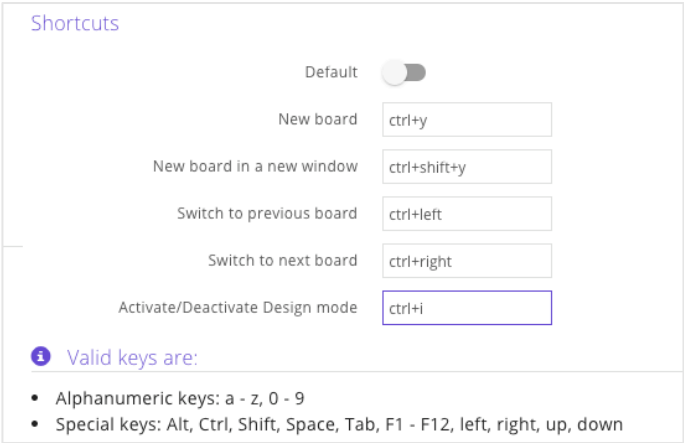
● **Major:** When the user creates a new workspace, the default open configuration panel is to add a new workspace. It does not make sense to prompt the user to create another workspace.



● **Major:** For new users, the unconventional concept of using workspaces and boards requires a period of adaptation. In the initial new page, it is not clearly stated what is a board vs workspace.



● **Major:** No distinction between new and power users. No hierarchy of complexity.



● **Minor:** Does not allow for users to create their own shortcuts, only alternative keys for a limited set of predefined actions.

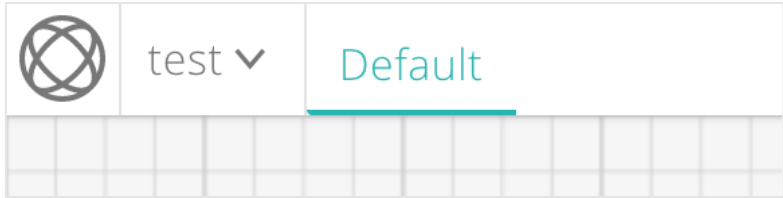
EVALUATION OF ACTION

RECOGNITION OVER RECALL

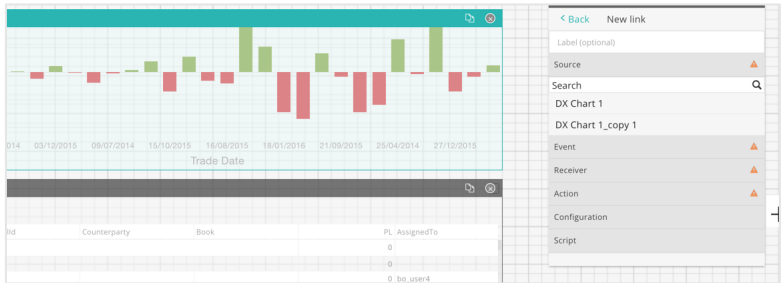
Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

RECOGNITION OVER RECALL

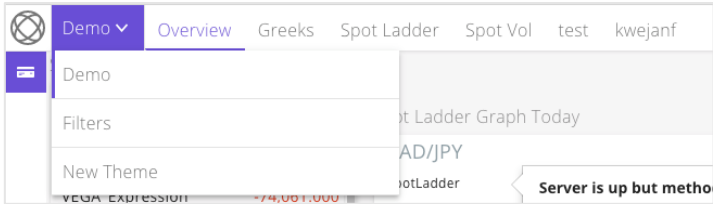
EXAMPLES



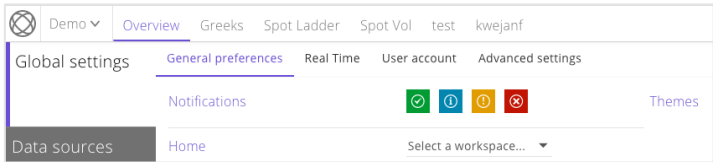
● **Minor:** After the initial creation of a new workspace, it is unclear what “Default” means. Users also have to remember “test”, in this case, corresponds to the workspace title they just created.



● **Minor:** When linking components, users have to recall the names of the components they are listing in the configuration panel. It does not default to the selected component.

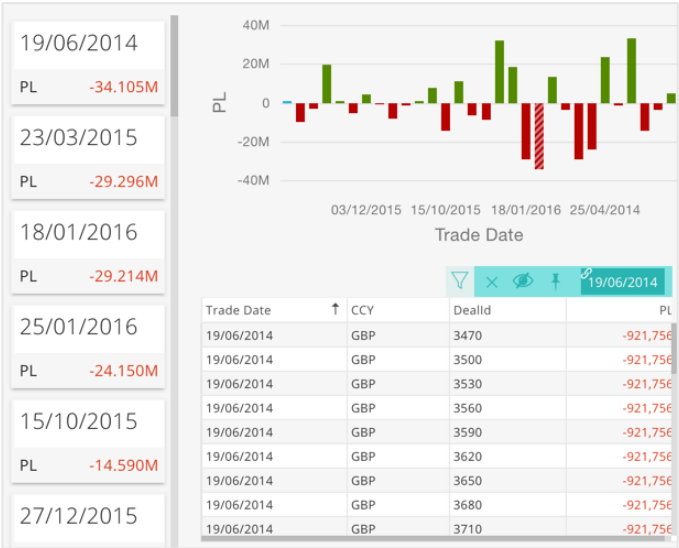


● **Major:** The header uses non-intuitive visual hierarchy. Users must learn that the hierarchy is workspace (dropdown) > boards (tabs)



● **Major:** The user must recall that the primary header icon is not a “return to homepage” link, but instead leads to the main settings menu.

The user also must remember that the icon is not part of the main navigation.



● **Major:** Discoverability of the linking drilldown is non-existent. Users are unaware that they can drill down into linked information, how to link it in edit mode, and how to interact with it in non-edit mode

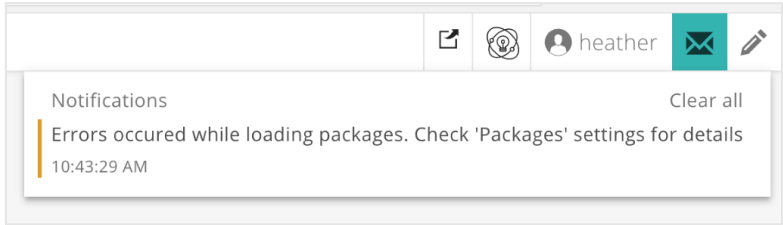
EVALUATION OF FEEDBACK

VISIBILITY OF SYSTEM STATUS

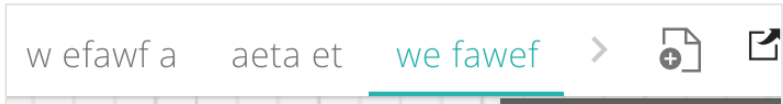
The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

VISIBILITY OF SYSTEM STATUS

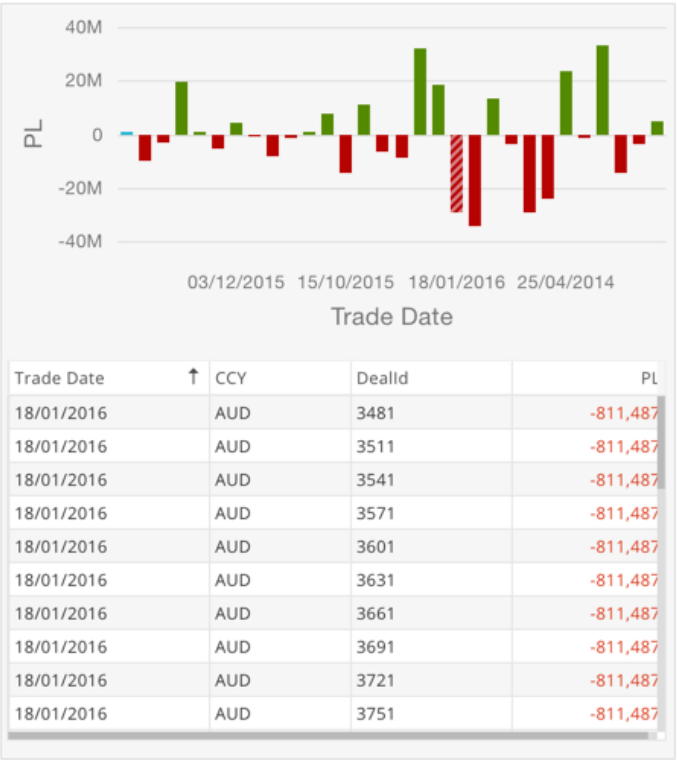
EXAMPLES



● **Major:** Despite appearances and convention, users cannot interact with the notification messages.

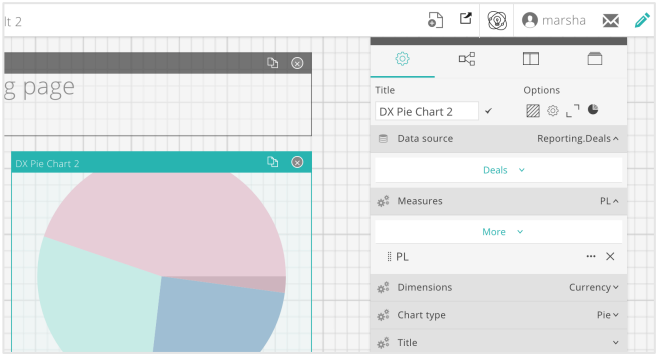


● **Major:** Information architecture for workspaces and boards is not visible. Users need to scroll through the navigation boards — low discoverability and hidden content.

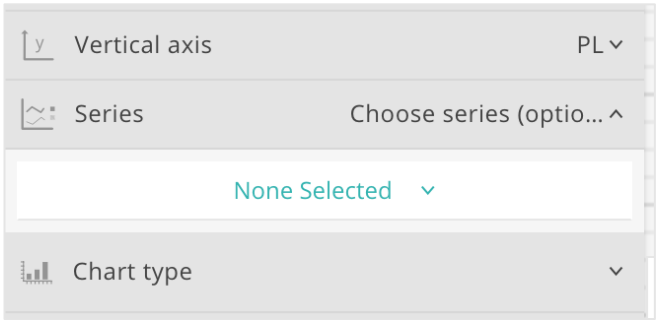


● **Minor** - ● **Major:** Does not display dependencies between UI elements.

Once linking is successful, there is no visual indicator that components are linked together.



● **Major:** There is no save button in the system, and there are inconsistent status notifications when changes are successfully saved.



● **Major:** In the configuration pane, there is no visual indicator for which attribute setting is selected. The selected “Series” blade is not highlighted as expected.

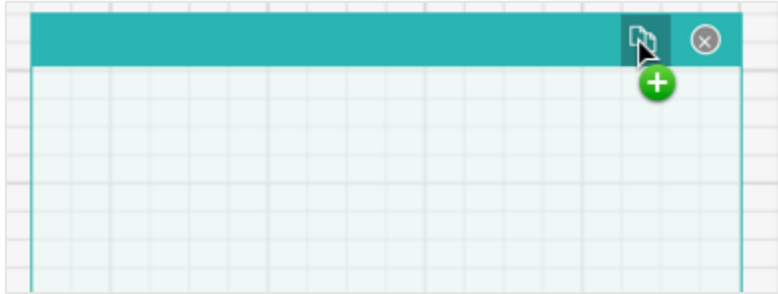
EVALUATION OF FEEDBACK

PREVENT ERRORS

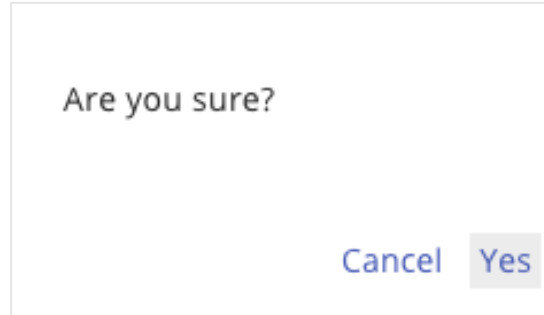
Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

PREVENT ERRORS

EXAMPLES

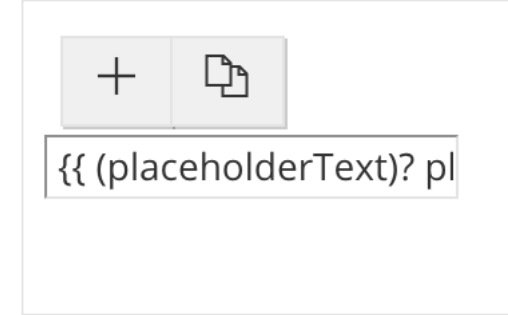


- **Major:** When the user clicks on the duplicate icon, it does not create a duplicate component. Instead, the user needs to click onto the grid and drag.

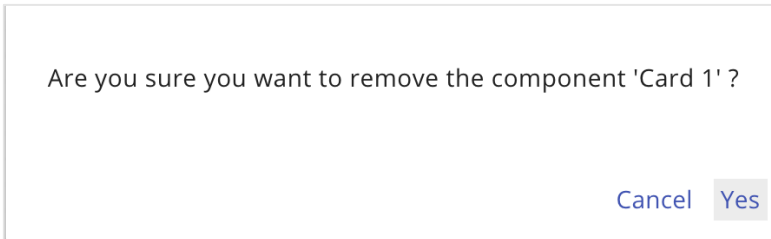


- **Major:** There is no description of or reference to the action that is being confirmed.

The action button labels do not match the question being asked.



- **Minor:** In User Account, the input field default text is not useful.



- **Minor:** The confirmation button to a destructive action is preselected. To prevent irreversible actions, the non-destructive option should be preselected instead.

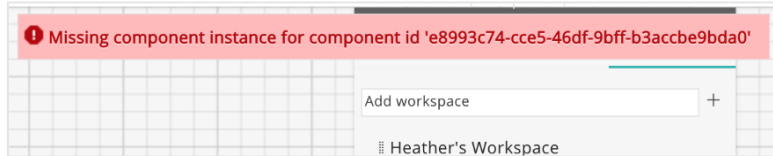
EVALUATION OF FEEDBACK

HELP USERS RECOGNIZE, DIAGNOSE, AND RECOVER FROM ERRORS

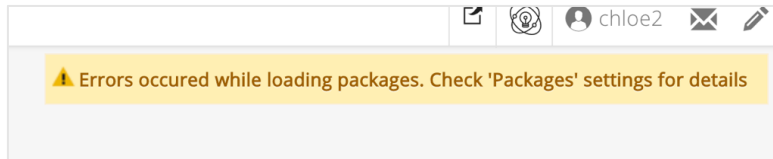
Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

SUPPORT ERROR RECOVERY

EXAMPLES



- **Major:** Users are unable to interpret the error notification. It does not indicate any solution to the problem.



- **Minor:** The error message disappears too quickly for the user to interact with it. Even when the user is quick enough, the message cannot be interacted with. The expectation is for the user to click on it and be navigated to the solution [Packages].

- **Major:** There is no feedback from clicking submit — users do not know what is happening or the consequences of their actions.

EVALUATION OF FEEDBACK

HELP AND DOCUMENTATION

Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

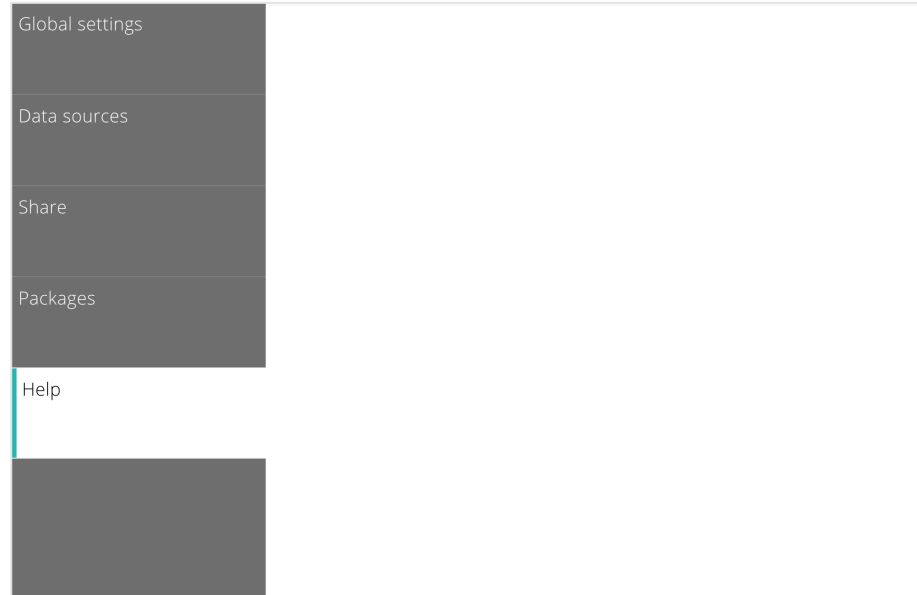
HELP & DOCUMENTATION

EXAMPLES

Errors occurred while loading packages. Check 'Packages' settings for details
14:25:21 PM

● **Major:** The notification assumes that the user knows where the Package settings are. Clicking on the notification doesn't take them to settings or Packages (or anywhere).

Once in Packages, the system does not aid the user in solving the error. There is no follow through on the details as stated in the error message.



● **Catastrophic:** There is no help documentation on how to use the FUXP system or how to troubleshoot problems.