

# CREATING UI CONSISTENCY IN AN APP PLATFORM

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## INTRODUCTION

The Bloomberg Terminal is a cloud-based platform through which thousands of applications called “functions” are made available to financial professionals.

Over the course of decades, teams working on these functions have evolved independent solutions for common user tasks. For example, teams have implemented base currency selection, a common task in financial applications, using different UI toolkit elements (images below).

Since its formation, the User Experience (UX) team at Bloomberg has sought to create platform-wide UI consistency – only when and where it is appropriate for the user.



Currency selection implemented as a combo box.



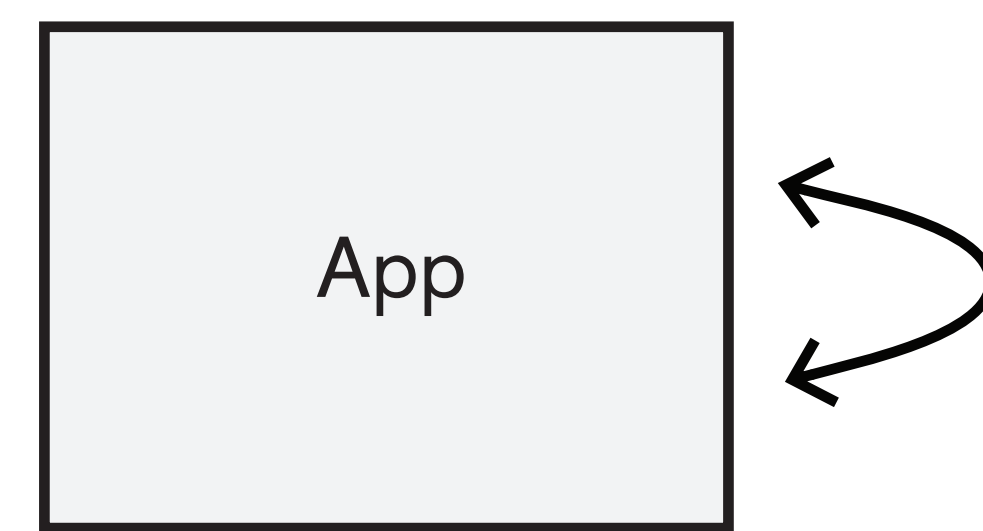
Currency selection implemented as an auto-complete.

## CONSISTENCY

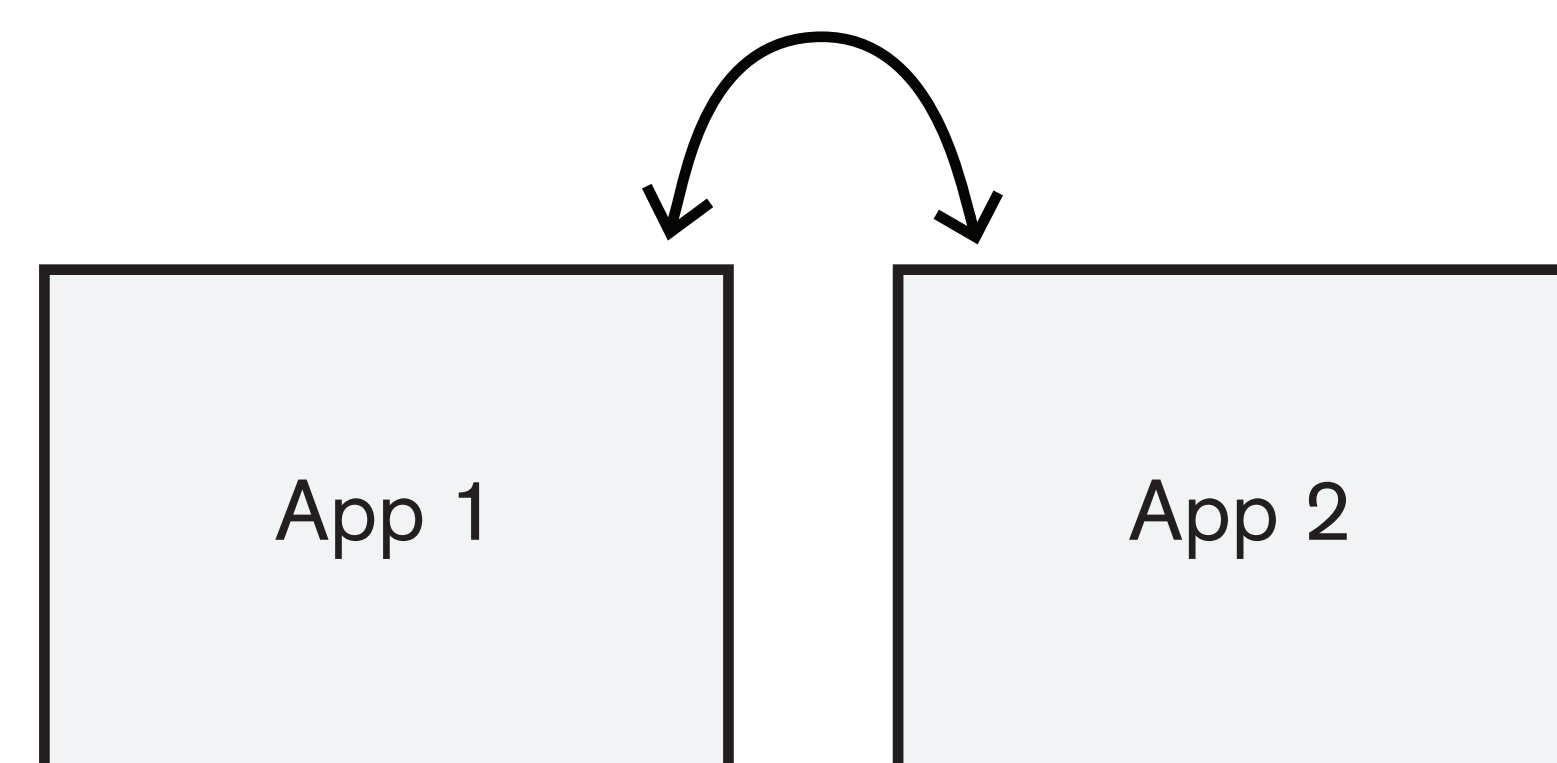
When the apps within a platform follow a common set of UI patterns and interaction conventions, users are able to:

- transfer experience from one app to the next;
- focus on the content, not the interface; and
- see the platform as a single experience.

### THREE TYPES [1]



Internal - the consistency of a design within itself.



External - The consistency of a design to other designs known to the user.

Metaphoric - The correspondence of a design to features in the world beyond the computer domain. Simple examples include:

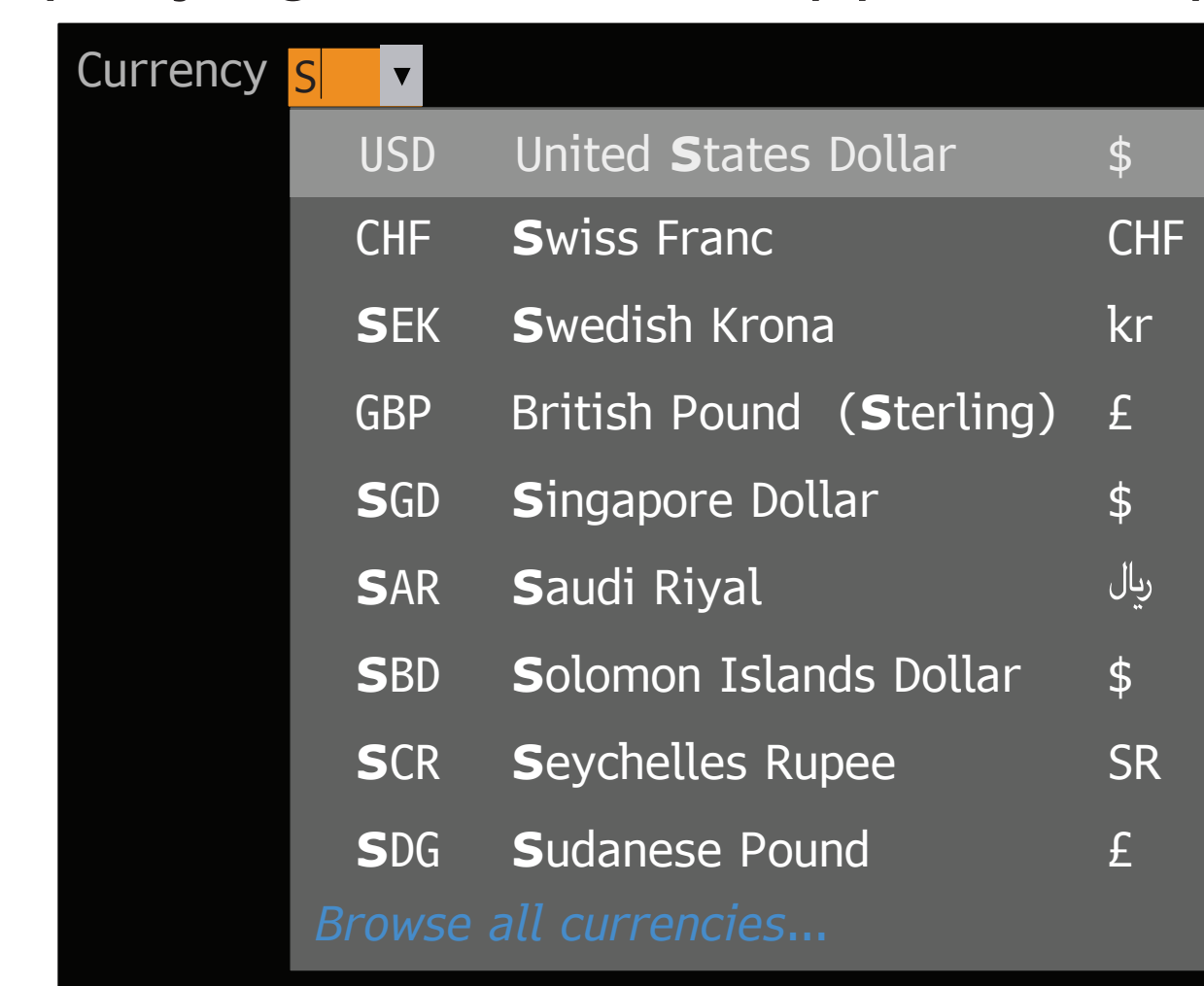
- toggle switches that turn on/off settings;
- knurling/stippling indicating grip or draggability;
- handles that “pull-out” drawers of content; and
- tabs that resemble file folders of content.

## METHODS (Pre & In-Build)

To focus our effort, the UX team at Bloomberg identified core user tasks for which UI consistency is important. Methods suggested by Nielsen and others were implemented and proved applicable at various stages of the effort [3, 4].

### UI TOOLKIT

Widgets afford a fundamental level of consistency that include interactions, visual affordances, and color styles [2]. For base currency selection, the UX team specified a pattern and then worked with software engineers to create a widget with accompanying services for apps to adopt.



### STANDARDS & PATTERNS LIBRARY

Pattern/standards libraries document and demonstrate the target UI. Centralizing content and making it institutionally available ensures the same message is conveyed to all app teams.

### CONSISTENCY TEAM

A consistency team fields incoming standards clarification requests from app teams, matches requests with existing answers, updates documentation to better serve the app teams, and escalates issues requiring further consideration.

## METHODS (Post-Build)

### CHECKLIST

A notable addition is the creation of a 300-point checklist that is used to evaluate apps that have been or are about to be released. Checklist evaluations point out necessary corrections and also identify common areas of inconsistency that may warrant toolkit-level solutions.

### UX CHECKER TOOL

To shift the time burden away from valuable engineering teams, the app front-end can be analyzed programatically. A script reviews UI and code, and then generates a report of action items.

## CONCLUSIONS

Moving an existing platform (and its thousands of applications) towards UI consistency involves many teams. Those teams need clear documentation, reliable information dissemination, and mechanisms for clarification and feedback.

UI consistency can make a platform feel cohesive, but it's important to recognize that there are valid reasons for exceptions. Consistency must dutifully serve the user's workflow.

Finally, the ubiquity of software platforms means that new users enter applications and software platforms with pre-existing expectations about how the UI will behave. Platform design teams need to carefully consider when and how to delight users with improvements.

# Bloomberg

## REFERENCES

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- [4] Nielsen, J. 1989. Coordinating user interfaces for consistency, Boston: Academic Press.



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