



MORTGAGE
CADENCE

UI Designer Best Practices and Recommendations

Summary of Best Practices and Recommendations for Good Design within the MCP Application

The MCP project has been a deliberate design effort aimed at not only updating the front-end technology, but also improving and updating the overall user experience of the application.

Mortgage Cadence has worked hard to design an application that does the following:

- Meet the needs of our customers
- Help to simplify the complex business of mortgage origination and processing
- Empower our users to customize their experience to fit the unique needs of their niche of the process

The document that follows is comprised of two sections, the

- **Fundamental Information Architecture and Design Concepts of the MCP.** This section sets the stage for customizing MCP by explaining how the various pages within the system were designed to fit together and illustrates how MCP makes use of a hub-and-spoke workflow to guide users through the system.
- **Layout Design Tips and Best Practices.** This section provides simple and intuitive tips and techniques for getting started crafting clean, and most importantly, user-friendly pages with the UI Designer.

Fundamentals of Information Architecture and Design

“Information architecture (IA) focuses on organizing, structuring, and labeling content in an effective and sustainable way. The goal is to help users find information and complete tasks. To do this, you need to understand how the pieces fit together to create the larger picture, how items relate to each other within the system.” ([usability.gov](https://www.usability.gov))

Information Architecture

It is important to consider the intended IA when adding pages, creating workflows, and customizing the MCP application. The navigation, header bars, Favorites Drawer, and the Footer, is the scaffolding that defines the IA and enables the user to access the pages and workflows you have created in an easy and intuitive way.

Dashboards play a very prominent role in the MCP user experience (UX). The UX centers around a hub-and-spoke model of informing users then driving them into the loans and data they need.

Platform-Level Dashboards

Our redesign of the landing pages, now called dashboards, are designed to inform the user of important information at a system or department-level and drive the user into loans.

MCP Standard includes the following three department-specific platform-level dashboards:

- **Home Dashboard.** Provides users with announcements and other department and user-specific information.
- **Pipeline Dashboard.** A classic Pipeline with the added benefits of custom platform-level widgets, user-driven and reusable custom search, and filter capabilities.
- **Tasking Dashboard.** Our classic Tasking functionality with the added benefits of custom platform-level widgets, user-driven and reusable custom search, filter capabilities, quick actions, and more.

Once a loan is loaded, the dynamic Loan tab displays and drops the user on the Loan Summary page.

Loan-level Dashboards

These are loan-level landing pages, available once a loan is loaded. These are designed to inform users and drive them deeper into the parts of the loan or system that they need to do their jobs.

Mega Menu

This is an admin-defined navigation that offers a list of pages and workflows designed to be organized by department. This new drop-down menu enables the company to define a recommended workflow by department and arrange pages in a clean and intuitive way.

Optimized Four-Column Layout

All of the data entry pages and dashboard are built on top of a four-column, responsive grid system. This allows fields and components added to the page in UI Designer to automatically snap into a predictable pattern and location. This grid layout system was very much a user-centered design decision aimed at improving and simplifying the UX of both the admin and front-end users of the MCP.

Why only four columns? UX research consistently shows that multiple column layouts on form pages increase cognitive load, decrease speed at which data can be entered or gleaned, and often result in higher numbers of errors or missed fields per page. A four-column baseline that gracefully slims first, then decreases one column at a time down to a one-column layout, depending on available browser width, strikes the best balance between usability and efficient use of screen real estate on most device widths.

- For **admin users** this means quick and easy turnaround of fully responsive layouts, without any additional effort on the part of the admin. All user-facing pages will adapt to the available width of the browser window. From the base four columns down to two on tablets, and finally one column on small mobile phones.
- For **front-end users** this means improvements to readability and comprehension on any size device, large or small. By stacking the label above the field and reducing the maximum number of columns that display across the screen, we improve the user's ability to scan the page when they first load the blank form, but also after they fill it out. This layout also reduces visual clutter, makes the most efficient use of our screen real estate, and again improve the user's ability to scan the page for errors.

Workflow Collections and Wizards

Two powerful workflow management tools. These are both collections of pages, created within the UI Designer, and then grouped for easy access by the end-user in the ELC Admin.

- **Workflow Collections.** These act as a suggested workflow and enable the admin to group sets or collections of pages together in a way that guides their users through a recommended process without preventing them from jumping ahead working the collection in an order that the user sees fit. Workflow collections do not lock the user into a step by step workflow. However, using rules and page security, they can dynamically hide/show pages based on loan data and user security, and enables users to manually bookmark their progress using page status indicators.
- **Workflow Wizards.** These take the guided process approach a step further by doing the following:
 - Enabling admins to impose required fields that prevent users from moving on in the collection until all required fields are completed.
 - Displaying the pages in a dialog that can be canceled at any time, imposing an all or nothing approach to the workflow that ensures completion in a prescribed manner.

UI Designer

This, What You See is What You Get (WYSIWYG) style editor is used to create all the dashboards, data entry pages, and service submission pages. It uses a drag-and-drop library of controls that enable an admin user to quickly and easily create and publish fully responsive layouts in a very short period, without any advanced knowledge of an SDK or other coding skills. Mortgage Cadence has tried to minimize the need for the admins tasked with creating pages to be a designer.

The UI Designer was built with the idea that anyone with the following knowledge can quickly and easily create custom pages:

- A skillset like that of a typical Business Analyst, including a sufficient knowledge of the mortgage industry.
- At least a basic knowledge of the company's database, including what fields are found in which tables.
- A basic understanding of aesthetics and some idea of how to break large pages of fields or information into meaningful sections.

[This section](#) provides some tips and best practices to keep in mind as you get started.

Layout Design Tips and Best Practices

Fields and Inputs

- Use as few fields as possible and display only necessary information on the page.
- Set wider column spans on inputs where you are expecting longer data, such as sentences or addresses, and shorter column-spans for shorter data, such as ages and dates.
- Don't be afraid to break the previous rule. Try to visually align and balance the page by making use of the column span and row span properties for fields.
- Try to avoid grouping more than 8-10 fields together in a single panel. Sets of fields this long can often be divided up into multiple sub-sections to better clarify the workflow to the end-user.
- Fields that display data populated by rules, formulas, and the ACE Engine, rather than by direct user input should be set to read-only. This helps the user differentiate form fields designed for review apart from those designed for data entry.
- With a panel selected, use the Multi-field Selector to quickly add multiple fields at the same time.
- The Multi-field Selector is not an informational snapshot of what fields are already selected. It allows you to do a one-time selection of multiple fields at one time and add to a panel.

Page Text, Help Text, and Labels

- Labels should use clear and concise language easily understood by typical users.
- Use help text to explain complex inputs and to add explanation for inputs that are not evident by the control's label.
- Where necessary, use page text to introduce the purpose of a particular page or explain more complex workflows to the end-user.
- Avoid using abbreviations and industry jargon, unless it is widely understood, such as DTI.
- Define any uncommon abbreviations and acronyms.
- Make the first sentence of any long blocks of text descriptive. Users tend to skim the first one to two sentences of each paragraph.
- Compose sentences in active voice rather than passive voice. Users benefit from simple, direct language.
- Never use camelCasing, kebob-casing, or any other developer-based text formatting when formatting labels, help text, or page text.
- Use either title-style or sentence-style capitalization for all interface element labels.

Panels and Sections

- Organize pages into logical or functional sections that group related elements.
- Break long or complex pages down into clear, logical stages that visually separate each step using panels, sections, and separate pages.
- Use panels to separate and organize data fields into logical and related groupings.
- Break up long panels of related data fields into sections using the Horizontal Line and Section Header controls.
- Use descriptive, yet concise, headings to designate the start of a new step in the workflow or process.
- Panel titles and section headings should use descriptive text that allows the users to easily scan the page for the information they need.
- Panel titles and section headings should be unique and conceptually relate to and introduce the content they precede.
- Use rules and formulas to conditionally expand/collapse panels that are conditionally applicable or largely secondary to the broader workflow of the page.
- When rearranging multiple fields on a panel, remove any existing spacers on the panel and re-add them after the fields have been moved. If there are no spacers and many fields are to be moved it may be easier to remove them completely and re-select using the Multi-Field Selector.
- When creating multi-column layouts use separate 1-column panels rather than a 4-column panel with section headers to avoid layout issues when viewed on smaller windows or devices.

Dashboards, Grids, and Hierarchy Content Managers

- Use dashboards or grids to display read-only information. It is easier to glean information from dashboard pages and grids than it is to read from form fields designed to capture user input.
- When building a grid that contains currency fields along with other field types always place the currency fields on the right-most column of the grid.
- Hierarchy Content Managers (HCMs) are hybrid controls, designed to manage hierarchal and multi-line data. These unique controls offer the user the following two views:
 - **Grid View.** This view displays a high-level or summary of the data and is meant to be the read-only view of the data.
 - **Details View.** This view displays a detailed set of the data contained in the grid, and is used to add, edit, or delete the data.
- Form fields included in the HCM Details View should, at a minimum, correspond to the columns of the HCM Grid View, but can include many additional data fields.
- HCM Grid Views should contain a high-level summary of the fields contained in the HCM Details View.

Pages, Workflow Collections, and Workflow Wizards

- Use Workflow Collections and Workflow Wizards to break up long or complex forms and pages. Both options compartmentalize various steps of a job and can provide a clear start and end to complex processes. Breaking up long pages into workflows can help focus users and prevent fatigue errors caused by overly long and complex form pages.
- Consider creating small informational pages that can be accessed using the Show page as dialog button to extract secondary or reference information out into a dialog when it is not necessary for the user to complete the immediate task.
- Use grids and dashboard widgets with links to form pages to summarize/inform and then drive users into the proper parts of the loan.
- Use the Dynamic Hiding Panel to show/hide entire panels and drive workflow based on business rules.
- Create small, reusable page “components” for common form field combinations. Then use the Embed Page Control to include these small component pages when creating larger custom departmental workflows that contain similar blocks of fields.
- Embed core pages inside custom pages to add fields and customizations while maintaining the ability to accept updates pushed out from Mortgage Cadence.

Responsive Design Considerations and Page Testing

- Use an iterative design approach when designing a new page or migrating a page from a different system. Publish the page right away so you can review your page in the front-end as you build. Design, build, test, repeat.
- When testing your pages try to include end-users or outside individuals. End-users are best because they work in the system, but any third-party is better than designing and publishing in a vacuum.
- Once tested, iterate on your page based on the feedback received from your end-users or third-party testers.
- Testing does not need to be hard or overly complicated. If you have the time and resources to A/B test two different workflows, then we encourage you to do so. However, if all you can get is a colleague to quickly run through your page to let you know of any typos or errors and if the page flow makes sense to them, that is great, too.
- Consider sketching out your idea before you start building in the UI Designer. Identify the various sections that you will need and consider how users will likely scan and interact with the page.
- If the page is likely to be viewed on small to medium size screens, such as on mobile and tablet devices, test how your panels and fields stack on smaller device widths. You can do this by publishing the page to the front-end and simply dragging the browser window to narrower widths to see how the page responds.