

Web & Mobile UX

Version **5.0**

Version Notes:

Initial release of major version of documentation and Figma Library.

Schedule a consultation before you begin planning your project by contacting:

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For any guidance or discussion about anything in this website, please contact:

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Every application developed for, or deployed on the behalf of, EPRI must adhere to the required standards within this document. Requested deviations will be reviewed on an as-needed basis by the Web & Mobile and SQA leadership team.

Non-compliant sites and applications will not be released to a production environment.

Overview

Consistency is important. It's how you differentiate official from unofficial, give a sense of familiarity, and build a repeatable process.

For design and development, it is important to reduce design and development time, as well as build a brand that people know and trust.

At EPRI, it is important to build applications and websites using a consistent look and feel. We want our members and the general public to know how to use our products instantly, reduce confusion and increase adoption. Users should be able to use any of our apps or websites and know how to search and use the search refiners.

These guidelines to help create a solution that fits for your project.

The Web and Mobile team will meet with you during the discovery and design phases of your project. We will provide a recommendation on how you should construct your application or website, and help answer any of the questions you may have before you start. We feel that this method would be most beneficial to you and your team.

This guide will help in you understand the various components that are available and help you to provide an outstanding user experience in less time than you spent in previous projects. Additionally, it will give an overview of our user experience and user interface patterns that are typically used in our EPRI applications and websites. The use of these guidelines and standards will help maintain EPRI's brand identity and provide a unified customer experience for internal and external customers.

For Web Applications and Web Sites, we have adopted the [Bootstrap Framework](#). The [React JavaScript Library](#) is still part of our recommendation.

For **Mobile Applications** where a responsive website does not suffice, we have adopted the [Ionic Framework](#), which will help you design and build your mobile application for iOS and Android.

The EPRI Web and Mobile Solutions team can help determine which patterns and components you will need to build your application or website.

Technology Recommendations

In an effort to provide guidelines for modern browsers, as well as a consistent experience for web and mobile users, EPRI has adopted the [Bootstrap Framework](#) as our visual and user experience standards.

Google's Material was a great resource for user experience guidelines, but we at EPRI have more needs that aren't addressed by Material. Therefore, we have transitioned to Bootstrap to make it easier for our developers to build things rapidly. Bootstrap utilizes the [React JavaScript Library](#), which is also what we utilize for EPRI.com presently.

"Bootstrap is a Powerful, extensible, and feature-packed frontend toolkit. Build and customize with Sass, utilize prebuilt grid system and components, and bring projects to life with powerful JavaScript plugins"

[Get started with Bootstrap](#) | [Download Bootstrap](#) | [View Component Examples](#)

The Web and Mobile Solutions group reviews all web applications for standards compliance as part of the BETA and pre-production process. However, the earlier in the development process you involve us, the earlier we can provide feedback and help avoid any last-minute delays once the code is complete.

As the work becomes completed send screenshots, wireframes, or a link to a build of the application on the development server. This will allow us to give feedback early in the process and save rework.

From the review, the Web & Mobile group will provide feedback based on the following categories:

1. **Required Changes:** Must be met in order for the web application to enter production
2. **Recommended Changes:** Usability/User Experience Enhancements
3. **Notes/Observations:** Unusual or unexpected behavior of the web application

The Web & Mobile group may attach sample mockups to the feedback, if applicable. When your web application has been approved by the Web & Mobile group, a notification will be sent to the Software Quality Assurance (SQA) group referenced in your project documentation.

When you are ready to involve the Web & Mobile team, please contact:

David Caron (DCaron@EPRI.com)
Web and Mobile Solutions Manager

All web applications must adhere to their specific requirements (re-launch vs. new) listed in this section as of January 1, 2024.

Browser Compatibility

Browser compatibility standards are non-negotiable, regardless of the standards definition that is applied to your application. Both Re-Launched Web Applications and New Web Applications must meet the following minimum browser requirements.

All EPRI web applications must be fully compatible with:

- Microsoft Edge (current release), minus 2 versions
- Safari (current release), minus 2 versions | for both Web and Mobile
- Firefox (current release), minus 2 versions
- Chrome (current release), minus 2 versions | for both Web and Mobile

Please note, applications for Mobile must clearly document the supported operating systems (iOS 4.x/5.x Android 2.x/3.x/4.x etc.) and platforms – phone/tablet. Mobile applications should also clearly specify the optimal display dimensions, orientation(s), and/or form factor.

For Internet Explorer 11 – Our recommendation is to show a banner to users that states "Microsoft Internet Explorer 11 is not supported on this application (or website). Your experience may be impacted negatively by continuing while using it. Please update to a modern browser such as Microsoft Edge, Mozilla Firefox, Google Chrome, or Apple Safari for an optimal user experience." (with links to download each of them)

Read more about our recommended [Breakpoints](#)

Breakpoints

Responsive breakpoints should be as follows:

Breakpoint	Class infix	Dimensions
X-Small	<i>None</i>	<576px
Small	<code>sm</code>	≥576px
Medium	<code>md</code>	≥768px
Large	<code>lg</code>	≥992px
Extra large	<code>xl</code>	≥1200px
Extra extra large	<code>xxl</code>	≥1400px

EPRI.com currently uses:

- 0-800 - Mobile;
- 801-959 - Tablet;
- 960+ - desktop

Read more about responsive [breakpoints using Bootstrap](#)

Screen Resolution

EPRI's philosophy is that all applications and websites should be built using a mobile first strategy. To achieve this, websites and applications should be built responsively, with breakpoints for mobile, tablet and desktop. Responsive or Adaptive scalable layouts should conform to the web browser's viewport size.

Google has a great tool to be able to visualize this, located at <https://material.io/resizer/>.

The content region of such layouts does not need to consume the entire viewport area. Web pages may scroll horizontally on monitors with a screen resolution of 1024 x 768 or less. In these cases, the site should remain usable and navigable. Resolutions at or above 1280 x 800 should not require a horizontal scrollbar at any time. This includes during load, during transition between pages, or due to animation within a page. Appropriate CSS overflow control should be used to negate any potential problems in this area.

Device Compatibility

Recommended Mobile Device compatibility is:

IOS

iPhone 12 + (12, mini + pro models, etc)

Ipad 2022 +

Android

Samsung Galaxy S10 +

Samsung Galaxy A models from 2019 +

Galaxy Tab S6 +

Google Pixel 4 +

Components

EPRI uses Figma to update and manage its Web & Mobile Design System. The updated system is based on the Bootstrap framework, but also utilizes concepts borrowed from Google's Material Design. We used Google Material Design concepts in previous iterations of the design system.

Below are links to Figma documentation for various components. These documents are subject to change, as are the components they reference.

Note: As of June 2023, these have not been optimized to take advantage of the [new functionality that Figma announced](#) at their *Config 2023* conference on 6/21.

Design Files

The components are under constant refinement. You can view the most current designs within Figma, using the Developer view to see technical UI specifics.

» [View the Design Files in Figma](#)

Component Documentation

Specific documentation can be viewed for each Component listed below. This is the documentation view and not the developer view.

Click on a component name to view the Component Documentation in Figma

**Components are listed Alphabetically, not by order of importance*

COMPONENT NAME	DATE UPDATED	NOTES
Accordion	06/2023	
Alerts	06/2023	
Badge	06/2023	
Breadcrumb	06/2023	
Button	06/2023	
Button Group	06/2023	
Card	06/2023	
Carousel	06/2023	

COMPONENT NAME	DATE UPDATED	NOTES
Close Button	06/2023	
Collapse	06/2023	
Color	06/2023	
Dropdowns	06/2023	
Favicon	07/2023	Updated recommendation on the Favicon.
Figures, Charts & Graphs	06/2023	
Footer	06/2023	
Forms	06/2023	
Form Controls	06/2023	
Form Layout	06/2023	
Form Validation	06/2023	
Header	06/2023	
Images	06/2023	
Lists	06/2023	
Modal	06/2023	
Nav Bars & Tabs	06/2023	
Navigation	06/2023	
Offcanvas	06/2023	
Pagination	06/2023	

COMPONENT NAME	DATE UPDATED	NOTES
Placeholders	06/2023	
Popovers	06/2023	
Progress Bars	06/2023	
Ratios	06/2023	
Shadow	06/2023	
Spinners	06/2023	
Tables	06/2023	
Toasts	06/2023	
Tooltips	06/2023	
Typography	06/2023	

Common UX Patterns

Confirmation & acknowledgement

Confirming and acknowledging actions can help alleviate uncertainty about things that have happened or will happen. It also prevents users from making mistakes they might regret.

- Confirming involves asking the user to verify that they want to proceed with an action
- Acknowledging is displaying text to let the user know that the action they chose has been completed

Not all actions warrant a confirmation or an acknowledgment.

Log in & Log Out

The log in / Log out button should be present on the right side of the navigation bar, with the logged out version being outlines only, and the logged-in version being filled in.

Furthermore, a user should be alerted that they have both been logged-in or subsequently logged-out upon each respective action within the application. This can be done with a modal or a toast notification.

Data formats

Different types of numeric and linguistic data are represented using data formats. Date and time values may be formatted to depict ranges, time zones, abbreviations, and more, as appropriate to the context. Data redaction and truncation guidelines describe how to represent truncated numbers and disguise sensitive data.

Empty states

Empty states occur when an item's content can't be shown. A list that doesn't contain any items, or a search that doesn't display any results, are examples of empty states. Although these states aren't typical, they should be designed to prevent user confusion. For content that cannot be displayed because of a system failure, see app errors.

Errors

Errors occur when an app fails to complete an expected action. Some examples of errors include: When user input is not understood; An app failing to load; Incompatible operations are run concurrently.

Help & feedback

Help content provides answers to common user questions about your app. Users can send comments, report bugs, and ask questions that are not already answered by the help content.

Launch screens

The launch screen is a user's first experience of your application. A placeholder UI displays core structural elements such as the status and app bars until the app has loaded. Branded launch screens display your logo or other elements that improve brand recognition.

Loading images

Images, including illustrations and photographs, may load in three phases. Illustrations and photographs may load and transition in three phases by staggering opacity, exposure, and saturation levels.

Navigation

Navigation guides users through different parts of your app. Organize your app's structure according to the content and tasks you want users to see. Focus attention on important destinations by displaying them in tabs or in the side navigation, and de-emphasize inessential content by displaying it in less prominent locations.

Navigation drawer

The navigation drawer slides in from the left and contains the navigation destinations for your app. The nav drawer spans the height of the screen, with everything behind it visible but darkened by a scrim. The navigation drawer follows the keylines and metrics for lists.

Navigational transitions

Navigational transitions are movements between states in an app, such as from a high-level view to a detailed view. Most, but not all, transitions are hierarchical in nature. These moments should appropriately reflect the user's journey through each state of an app.

Permissions

Permission requests should be simple, transparent, and understandable. Apps should clarify why each permission request is needed, either through the feature name or an explanation provided. Runtime permissions are requested at the moment a user needs to perform an action in an app. Denied permissions should provide feedback and options.

Selection

Selection enables user choices through gestures and visual cues. Checkboxes indicate completion, such as checking items off a list. Text selection is indicated by highlighting a segment of text.

Settings

App settings let users indicate preferences for how an app should behave. App settings are located under the “Settings” label in your app’s navigation. Setting controls should capture user preferences. The settings shown should either affect most users or provide critical support to a minority of users.

Swiping horizontally to see more columns on Mobile

On mobile, instead of showing 4 cards in a vertical sequence, for example, we show one card with 4 navigational / status dots to allow the user to swipe horizontally progressing through the list. This saves space on the device and is a more natural movement. We should enable swiping horizontally wherever possible and wherever it makes sense.

Accessibility

By following accessibility guidelines content will be more accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity and combinations of these.

Following these guidelines will also often make your Web content more usable to users in general and may have the added benefit of being more search engine friendly.

It is recommended that all EPRI web applications should conform to Level A of the [W3C Web Content Accessibility Guidelines \(WCAG\) 2.0](#).

Personas

"The purpose of personas is to create reliable and realistic representations of your key audience segments for reference." – [Usability.gov](https://www.usability.gov/)

At EPRI, we have the following basic Personas presently. These will be updated in the near future.

Public

Basic Public User

general person, usually found EPRI from Google on a specific topic.

Goal: Read information on Topic found on Google, may browse the site to see what else is available

Journey: [Google.com](https://www.google.com/) > Specific Content Item > Browse Site

Public +

General browser but with intent to find something.

Goal: Comes to EPRI with a goal of finding specific information.

Journey: [EPRI.com](https://www.epri.com/) > Search > Abstract Level Page

Not Logged In Member

A Member, but browsing the website as Public +; Won't log in until they have to. Familiar with EPRI.

Goal: Find a specific Program, read announcements, log in to read protected content

Journey: Bookmarked [EPRI.com](https://www.epri.com/) Program Page > Browse Program Sub Pages > Log In > Browse Program Sub Pages

Authenticated

Contractor

Works for a Member Company, with a very specific interest in a specific piece of information. Microsite interaction low, reading of page High.

Goal: Find a specific Microsite Page for reference information

Journey: [EPRI.com](https://www.epri.com/) > Research Index > Program Page > More + > Microsite Page

Researcher

Working on a specific piece of information, but also interested in looking at what others are doing. Microsite interaction moderate.

Goal: Reviewing the latest information on a subject as part of ongoing research

Journey: EPRI.com > Search > Search Result > Content Page | Navigate to Program Home > Announcements > Specific Announcement | Navigate to Collaboration Site Landing Page > Group Page > Individual Post

SME

A user that is top of their field, looking to engage in further training or events and possibly contribute. Microsite interaction high.

Goal: Find a certification course

Journey: EPRIU.com > EPRI Course Listing > EPRI Specific Course > Cornerstone Page

Goal 2: Find a Conversation on a particular topic

Journey 2: EPRI.com > Program Index > Program Home > Collaboration Site Landing Page > Group Page > Individual Post

Alt Journey 2: EPRI.com > Search > Search Results > Individual Post

METT

A user that is in charge of engagement with EPRI. Microsite interaction moderate.

Goal: Generate a customized report of user engagement

Journey: EPRI.com > METT Dashboard > Specific Report > Program

Member Executive

A user that cares about the engagement of EPRI and what past, current and future offerings are. Microsite interaction likely minimal.

Goal: See what EPRI offers and to check status of research already purchased

Journey: EPRI.com > Dashboard > Portfolio > Back to Dashboard

EPRI Employee

A general EPRI employee that accesses data on usage; general posting ability.

Goal: View their area of responsibility and make sure everything is running smoothly

Journey: EPRI.com > Dashboard

EPRI Program Manager

An EPRI Power User responsible for posting information in a specific space and creating microsites

Goal: Update EPRI.com with specific information

Journey: Bookmarked Program Page > CMS > Post Announcement > back to Bookmarked Program Page