

ECX

CROSS-MISSION GROUND & COMMUNICATIONS ENTERPRISE

G S A W 2 0 2 1



GSAW 2021



Enterprise User Experience Design

March 2021

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User Experience Definitions

The full experience a person has using a digital product

What is User Experience (UX)?

What a person is thinking, feeling, and able to accomplish while using a digital product.

What is User Experience (UX) Design?

Following a User Centered Design Process, designing a digital product to provide a successful User Experience.

What is a UX Design System?

A UX design system contains the principles of the UX design and development and the toolkits for achieving those principles.

What is Design Operations (DesignOps)?

The practices and methodologies used to plan, coordinate, and choreograph design at scale across the enterprise and at the project level.

Users expect a
high quality
User Experience



UX Design Fundamentals

The full experience a person has using a digital product

For many people, the word “design” is associated with creativity, colors and graphics.

Its true definition lies in functionality, as well as the process behind making products that work well for the people who use them.

Functionality and “usability” should rank high in the list of priorities for our products.

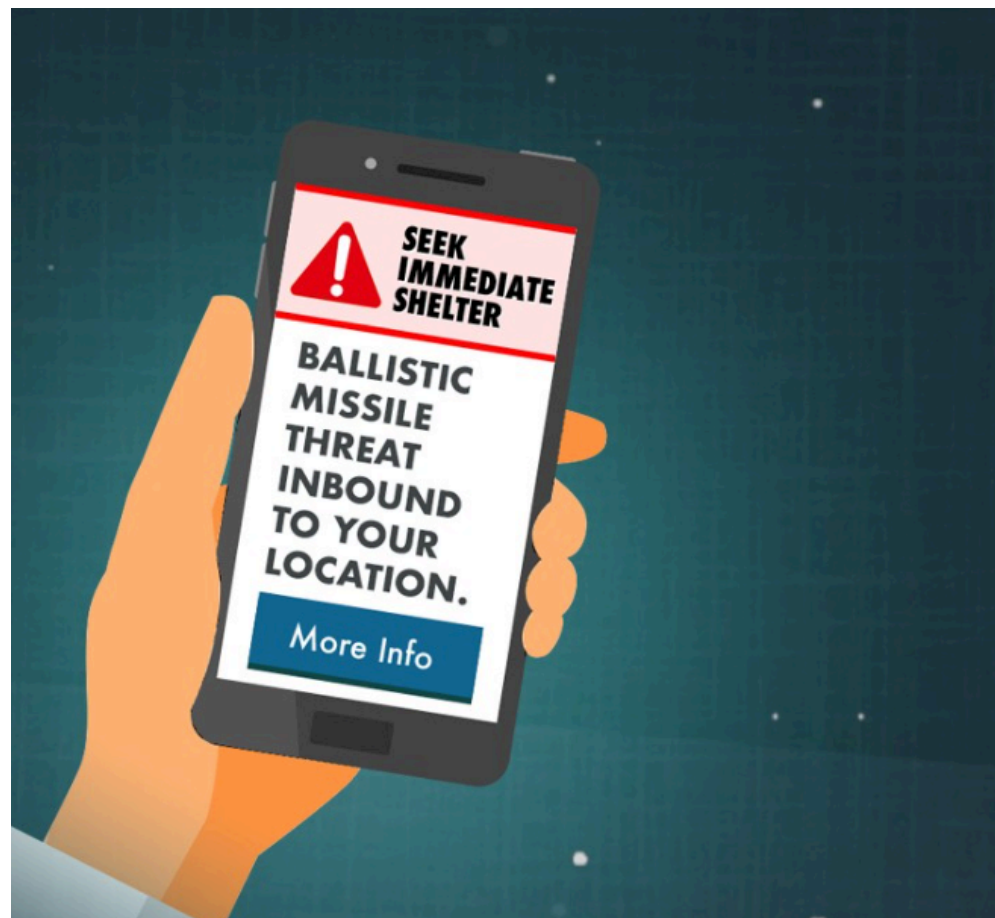
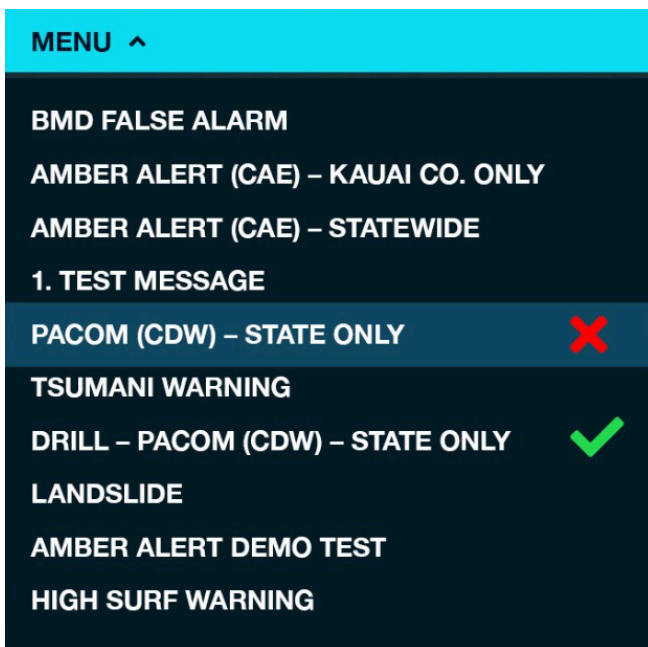
A holistic User Centered Design process ensures that design meets the needs, wants, and desires of the users and the mission needs.

Successful design
isn't how it looks,
it's how works



Impact of Bad UX

Poor interface design resulted in the sending of a statewide *'incoming ballistic missile'* alert to residents of Hawaii in 2018.





User-Centric Design

Successful Design is Created with Intent





Warfighter Engagement



Deshaun Hutchinson
(Hutch)

“The user engagement meetings that we’re having. That’s not something I’ve experienced with other previous products and mission system replacements. With ATLAS, the big difference is the weekly communications with Rocket and L3Harris. We’re constantly in touch. And that’s something that was lacking with previous system developments.”

Sr. Orbital Analyst
Advanced Analysis Cell
18th Space Control Squadron/DOU
Vandenberg AFB



Warfighter Engagement



Deshaun Hutchinson
(Hutch)

During meetings we'll give feedback and by the next meeting, or sometime within the next few days we'll get screenshots of the revised design concepts. As far as the designs, from the 18th perspective, we've been heavily engaged in the design process and honestly that's really helping the project come along."

Sr. Orbital Analyst
Advanced Analysis Cell
18th Space Control Squadron/DOU
Vandenberg AFB



Warfighter Engagement



Amos J Alexander

GS-12 USSF SPOC
18 SPCS/DOU
Vandenberg AFB

“It is a productive and rewarding experience for the user because we see that we’ve provided good inputs to the developers, and they’re be responsive in taking our feedback and developing a prototype taking our feed back and in a fairly good time span tweak the prototype and bring it back for our feedback.”



Warfighter Engagement



Amos J Alexander

GS-12 USSF SPOC
18 SPCS/DOU
Vandenberg AFB

“We feel like we’re part of the process, and that a refreshing change from the past where we felt like we weren’t involved and the system was developed in such a way that we felt like it wasn’t useful in the way we needed it to be.”



Developer Engagement



As a large ground system you're dealing with 5+ teams of 10+ developers each developing a subsystem. Each of those subsystems has UI/UX. Prior to Astro UXDS, each team is off "doing it on their own" at varying levels of success. This means you're consuming cost to have non-UI/UX engineers generate designs and then develop UIs in technology they generally aren't familiar with.

Ben Tarr

President Outside Analytics



Developer Engagement

Starting with Astro means all of those teams started at a consistent design jump off point and very little UX work had to be done as Astro covers 80% + of our use cases in this example


Ben Tarr

President Outside Analytics



User-Centric Design

In the Age of COVID-19

A photograph of a woman with dark hair, wearing a white surgical face mask and a grey hoodie. She is looking at a laptop screen, which is partially visible on the right side of the frame. The background is blurred, showing what appears to be an office or laboratory setting.

What to do when your process
wants to get you in front of
users when getting in front of
users is impossible



User-Centric Design

In the Age of COVID-19

What to do when your process wants to get you in front of users when getting in front of users is impossible

Plan in extra lead time to get user engagements scheduled, and be prepared to reschedule

If you can get user engagements scheduled on a regular cadence, this will limit churn

Communication channels on base can be restrictive and flaky, so create and email a PDF version of materials ahead of time to use as a backup

Test out the conferencing technology *ahead* of time to the extent possible and make sure it adheres to government protocols

Everyone has a plan until they get punched in the face

- Mike Tyson



User-Centric Design

In the Age of COVID-19

What to do when your process wants to get you in front of users when getting in front of users is impossible

Always make sure there are at least two people from your team on the call in the case where recording the session isn't allowed, a note taker should be present to capture observations while you moderate the session

Try to find a quiet place to conduct testing, but don't stress out about external noise. Whether it be dogs barking or kids interrupting, we're all dealing with this and can't control every detail about our environments

Everyone has a plan until they get punched in the face

- Mike Tyson



User-Centric Design

In the Age of COVID-19

It's not all bad!

Remote testing can produce desired results with less travel and lodging costs

Work from home frequently has better connectivity

Many in-person exercises such as card sorting, A/B tests, or tree testing can be done through online tools to gather information architecture and/or preference insights

You can't always
get what you want,
but if you try
sometimes you
just might find you
get what you need.

- Mick Jagger



Cross Mission Ground Enterprise UX Design At Scale



Need to Rapidly Increase Capabilities

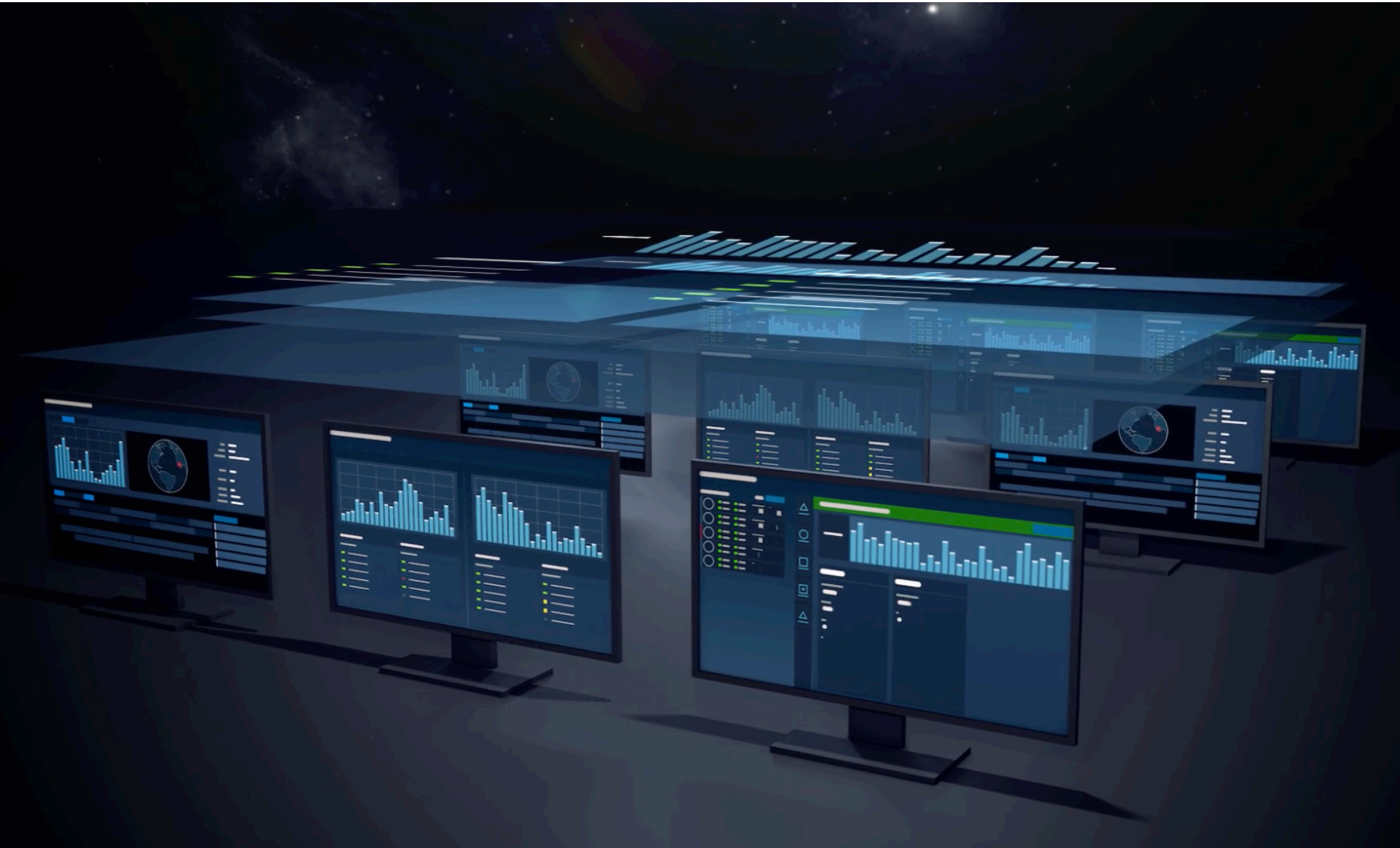
Every system is designed differently





Transformation at Scale

Adopting Modern Software Design & Development Standards





Maximizing Warfighting Capabilities

Giving our Warfighters the best tools to fight





All Successful Enterprises Have UX Design Systems

Not only is it Industry
Standard to have
DevOps, it is Industry
Standard to have
DesignOps



Infrastructure Enables Scale, Speed, and User Focus

Design Also Requires Operations Support

DevSecOps



Skilled People



Training &
Onboarding



Software



Tools &
Templates



Processes



Storage/ CVS



Security



Management

DesignOps



Skilled People



Training &
Onboarding



Software



Tools &
Templates



Processes



Storage/ CVS



Security



Management



Infrastructure Enables Scale, Speed, and User Focus

A Design System Supports DevOps and DesignOps

DevSecOps



DesignOps

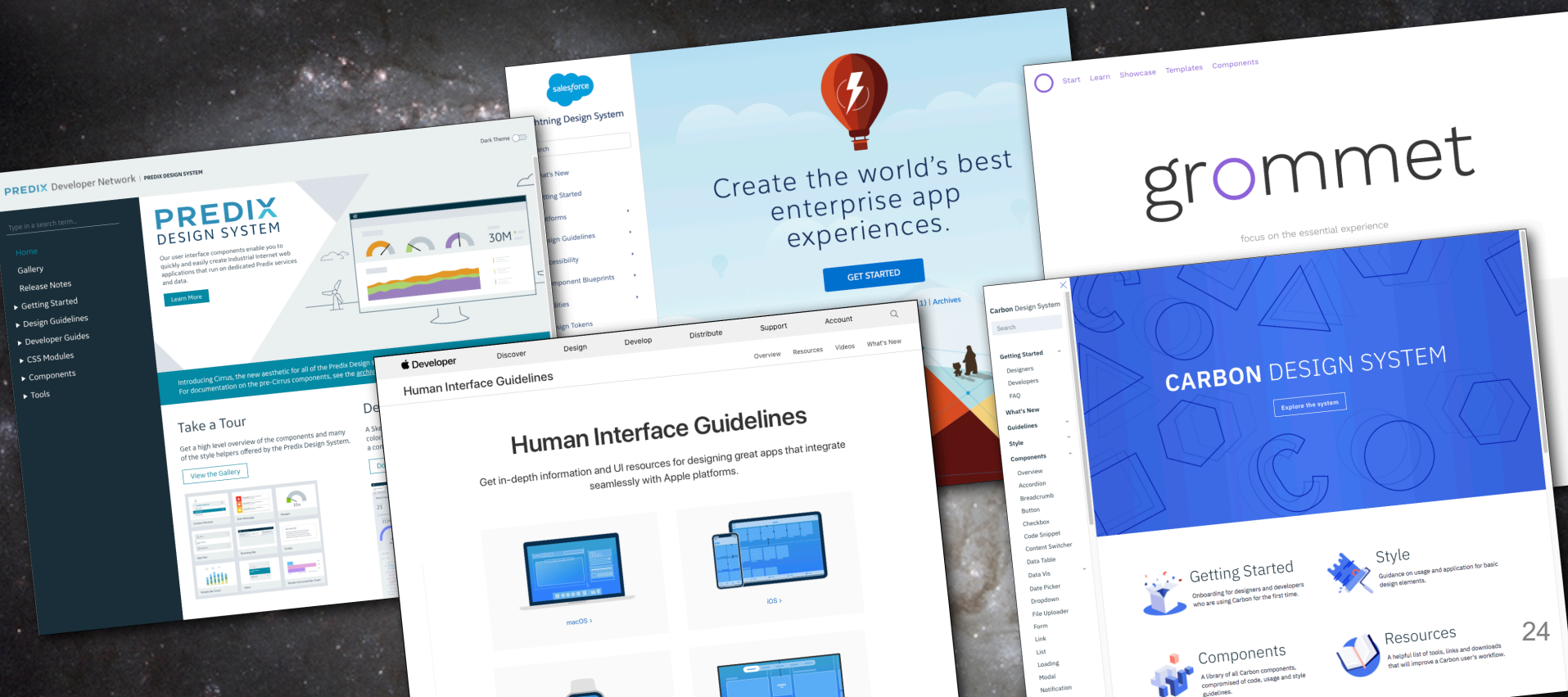




All Successful Enterprises Have UX Design Systems

UX Design Systems Are Industry Standard

Online Components • Design Guidelines • Sample Code • Sample Apps





AstroUXDS.com

Enterprise Level UX Design System for ECX

Online Components • Design Guidelines • Sample Code • Sample Apps





Astro

Standard User Interface Controls

Button Button ☐

Single Double Triple Home Run

☐ Checked

☒ Checked



Astro

Guidance, Design & Code for Unique Space Needs





Astro

Guidance, Design & Code for Unique Space Needs

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TOP SECRET

SECRET

CONFIDENTIAL

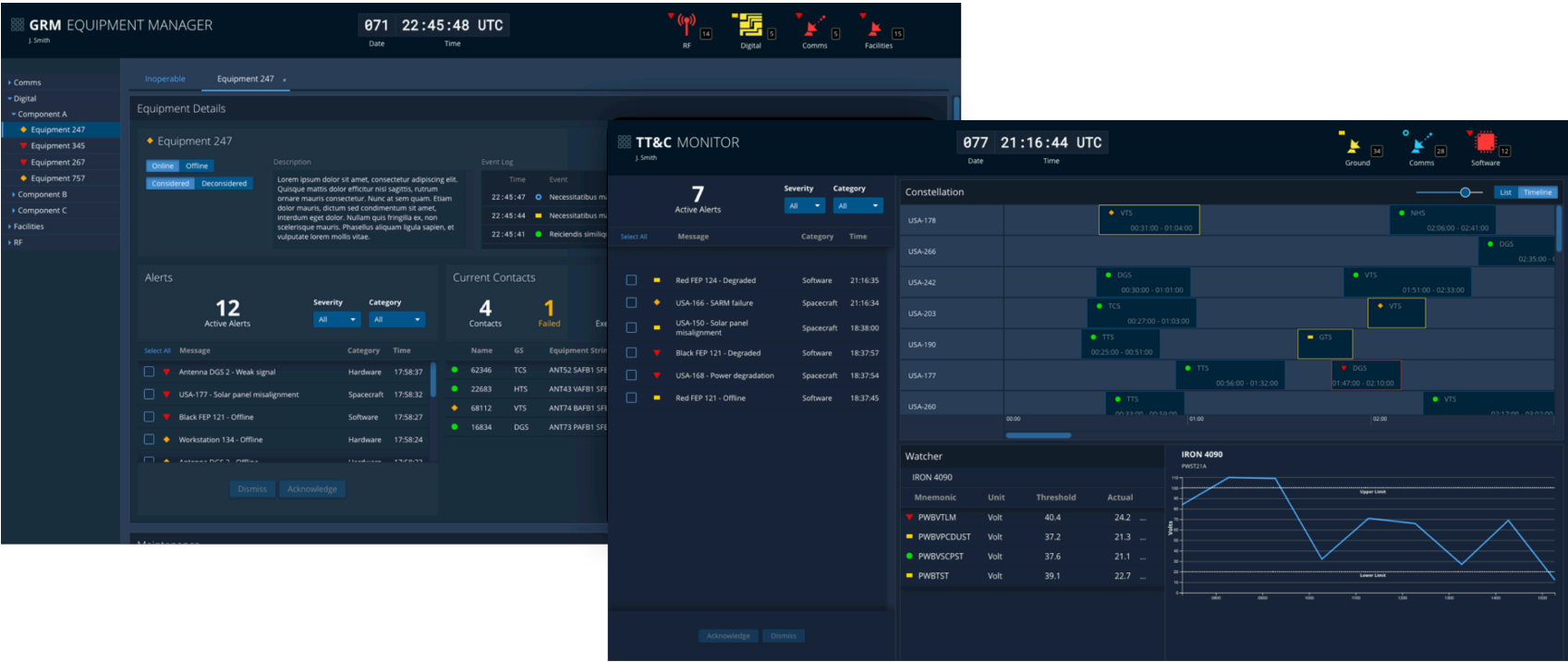
CUI

UNCLASSIFIED



Astro

Complex Design Patterns and Specifications





Astro

Open to the Community

The screenshot shows the GitHub repository page for `RocketCommunicationsInc/astro-uxds`. The repository is in a "draft" state and has 24 branches and 7 tags. The commit history shows a recent commit by `dmcalester` titled "Fix typos noted by Amalya (#96)" 15 days ago, with 611 commits in total. The file list includes `_content`, `_includes`, `css`, `img`, `js`, `scss`, `.eleventy.js`, `.eleventyignore`, `.gitattributes`, `.gitignore`, and `gitmodules`. The right sidebar contains an "About" section describing Astro as a collection of guidelines, patterns, and components for designing space-based user interface applications, with a link to `www.astrouxs.com` and tags for `design-system`, `space`, `space-force`, and `design-guidelines`. Below the "About" section are links for "Readme" and "View license". The "Releases" section shows the latest release, "Astro 4.8", 15 days ago.

GitHub - RocketCommunicationsInc/astro-uxds

Why GitHub? Team Enterprise Explore Marketplace Pricing Search Sign in Sign up

RocketCommunicationsInc / astro-uxds

Watch 4 Star 2 Fork 5

Code Issues Pull requests 4 Actions Projects Security Insights

draft 24 branches 7 tags Go to file Code

dmcalester Fix typos noted by Amalya (#96) 71cb692 15 days ago 611 commits

_content	Fix typos noted by Amalya (#96)	15 days ago
_includes	Fix typos noted by Amalya (#96)	15 days ago
css	Merge conflict css clean up and compressions	15 days ago
img	WIP: Astro-377/671 - Classification Marking content (#85)	16 days ago
js	WIP: Astro-377/671 - Classification Marking content (#85)	16 days ago
scss	WIP: Astro-377/671 - Classification Marking content (#85)	16 days ago
.eleventy.js	Publishing Compliance (#50)	5 months ago
.eleventyignore	Added _template pattern to ignore, enables creating a sta...	13 months ago
.gitattributes	Manual no-lfs	7 months ago
.gitignore	Publishing Compliance (#50)	5 months ago
gitmodules	Removed _content submodule	8 months ago

About

Astro is a collection of guidelines, patterns and components for designing space-based user interface applications.

www.astrouxs.com

design-system space space-force design-guidelines

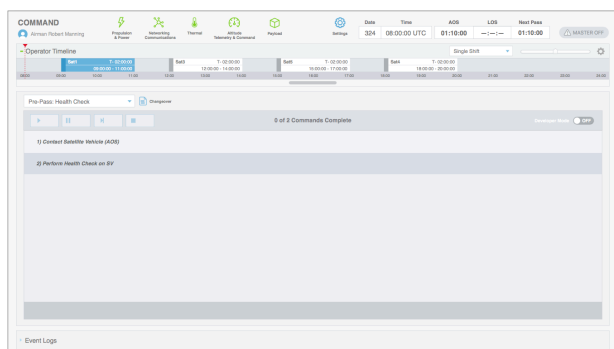
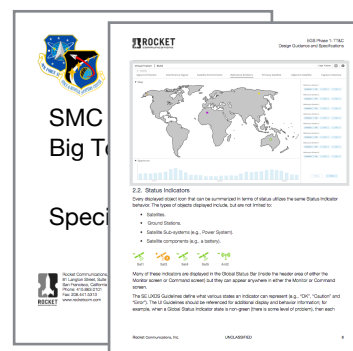
Readme View license

Releases 7

Astro 4.8 Latest 15 days ago



Astro Is Enhanced With Those Designs UX Designs Are Created Using Astro



astro



[AstroUXDS.com](https://astrouxds.com)

Participate in the
Astro Community

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