

TV2020

TRIDEUM UX TRANSFORMATION GUIDE

TRIDEUM[®] USER EXPERIENCE



GUIDED TOUR

User Experience

Services

Trideum UX

UX Artifacts and Methodologies

Success Stories

Summary

“User experience is how something
works **in the real world**”

– *Steve Jobs*

Trideum’s User Experience (UX) process provides a strategy to create or improve systems by designing what users need in a way they can more easily understand and engage.

CASE STUDY: APPLE



In early 2007, Apple was struggling to maintain three points of profit– but by the end of the fiscal year, they had turned those 3 points into 30. How did they do it?

Meanwhile, Motorola was forced to pull their smart phones from the shelves due to over-saturation of the market. No one was buying smart phones – and it was at that exact moment that Steve Jobs decided to break in with the new iPhone.

Jobs was convinced that he had a better design than any other players on the market. He understood that it's not about the technology that we use, but about building that technology around human needs.

Apple released the iPhone, and it sold 270,000 units in the first 30 hours. Because the iPhone was built with users in mind, Apple is now among the top five most profitable companies in the world.

CASE STUDY: INTUIT



Intuit takes a similar approach as Apple to create their products, investing 10,000 hours a year in user research to observe how people actually use their software tools; their needs and pain-points. Intuit begins by identifying the problem that needs to be solved – and then building a product to solve it.

But it hasn't always been that way.

In 2007, Intuit founder Scott Cook decided the company could innovate through “Design for Delight” – by putting users at the center of their product development processes.

By 2009, Design for Delight was the driving impetus behinds Intuit's product development, which leverages their “follow me home” approach to user feedback & observation. For the next 5 years after, Intuit sales grew from 10 to 45 million and stock prices tripled.

Today, Intuit is the leader in personal and professional financial software. Their TurboTax product enjoys a staggering 67% market share of all online tax preparation products, while QuickBooks rings up a whopping 57% market share for all accounting software.



INTRO

We are tireless user advocates and promoters of innovation, crafting experiences that impact lives and advance society.

We do paradigm-shaping work. We are experts in UX who educate our communities on the application of user-centered processes to solving the world's toughest challenges. We bring commercial best practices and design thinking to complex systems such as DoD, emergency management and healthcare.

WHAT IS USER EXPERIENCE?

Trideum's UX process takes a **User-Centered approach** to a problem, product, service; as opposed to a **System-Centered approach**.

User-centered design is driven by empathy. Too often, systems are built from a system-centric perspective, designed to meet system goals and system requirements, while ignoring the needs and attributes of the people who use the system. User-centered product development builds out product requirements and designs around the needs of the user.

Usability is more than efficient code and eye-popping visuals, at its core, it's about problem solving. User-centered product development processes tend to produce better user experiences by creating products that make the interchange between us and the systems that we use more facile, more understandable, more efficient.



SERVICES

SKILLS



User Research

We exercise empathy in our human-centered approach to problem solving, employing qualitative and quantitative measures to investigate and uncover insights into the impact of systems and services on their users to ensure we are solving the right problems to meet our users' unique needs.



Evaluation & Assessment

We are skilled practitioners of data collection and analysis who translate words and numbers into meaning. We can measure anything—from attitudes to performance—and our findings guide iteration based in evidence-driven decisions.



Service Design

We transform organizations and services from the ground up to deliver the best experience for the user/customer, employee, and service provider. Whether improving an existing service or creating a new one, we apply a holistic and flexible approach to planning and organizing



Interaction Design

We see more than just an interface, constructing engaging systems and services that explore the functional and emotional impacts of interaction on user behaviors and limitations.



Information Architecture

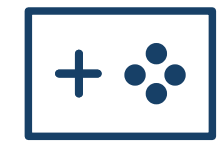
We understand the art and science of how content should be structured and presented to a user when they are interacting with the product to optimize efficiency and usability.

SKILLS



Product Design

We can imagine a product from identifying the problem to developing the solution, taking into consideration business objectives and user needs.



Game Design

We apply our expertise in storytelling, interaction, and aesthetics to the art of game design. As strategic thinkers, we balance logic with empathy to craft goals, rules, and challenges for educational and entertainment purposes – and often apply those principles to other domains in the form of gamification.



Visual Design & Branding

We create visual systems that improve ease of use, utility and inspire action by empowering audiences. We use color, shape, and type to transform company values into recognizable patterns.



Development

UX developers are able to collaborate with UX designers & researchers and understand the importance of the end user. Agile software development enables iteration and responsiveness to user feedback.



Workshops & Conferences

We seek every opportunity to advocate for user-centered practices in our community. We take a hands-on approach to making connections and have built a reputation for ourselves as passionate educators who remain inspired to learn from those around us.

USER-CENTERED RESEARCH

User research refers to systematic investigation of the behaviors, needs, and motivations of the users of a system or service. Research may entail anything from literature reviews to non-intrusive observation to detailed personal interviews. Regardless of the methodologies employed, the goal of user research remains the same: to build contextual understanding and empathy for the users.

A critical part of user research is evaluation and assessment, which employ a collection of methodologies aimed at measuring usability. These could range from questionnaires or surveys to elicit feedback on a specific topic – to heuristic or reviews based on expertise in usability best practices – to usability testing, which involves a user performing some action using a system or service as the research team collects qualitative and/or quantitative data on how the product (not the user) performs.



SERVICE DESIGN

Service Design is the application of UX principles and strategies to organizations and services (as opposed to the more tangible products or systems for which UX is commonly recognized). By applying our iterative approach to discovery and problem-solving to people, policies, and procedures, we can improve the quality of the work produced and interactions between a company and its clients.

Through a deep and holistic examination of the problem area, the UX team can provide leadership with recommendations for a strategy and timeline to improve internal and client-facing relationships, products, and practices – and potentially uncover additional business opportunities.



INTERACTION DESIGN

Whereas visual design concerns the visual presentation of form and information, the main focus of interaction design rests upon behaviors— how does a tool behave when used by operators; and how must users behave to most effectively use the tool?

GUIDING PRINCIPLES

Discoverability

Users must be able to easily and quickly find what they're looking for - or for them, it simply doesn't exist.

Signifiers

"Affordances define what actions are possible. *Signifiers* specify how people discover those possibilities: signifiers are signs, perceptible signals of what can be done. Signifiers are of far more importance to designers than are affordances." (Don Norman, 2013)

Feedback

Feedback refers to the information provided to the user regarding the action taken or status of events. Without sufficient feedback, users can experience uncertainty and frustration.

Mental Models

Mental models are pre-existing ideas in the users mind about how something should work. Designs that use mental models effectively creates a more intuitive experience for the user.

Constraints

Constraints in design eliminate unnecessary controls or features that can overly-complicate the user experience - providing guard rails that simplify and streamline actions.

Consistency

The consistent use of similar actions, elements or rules within a design makes it easier for users to learn and use a product - and, minimizes the likelihood of error.

Patterns

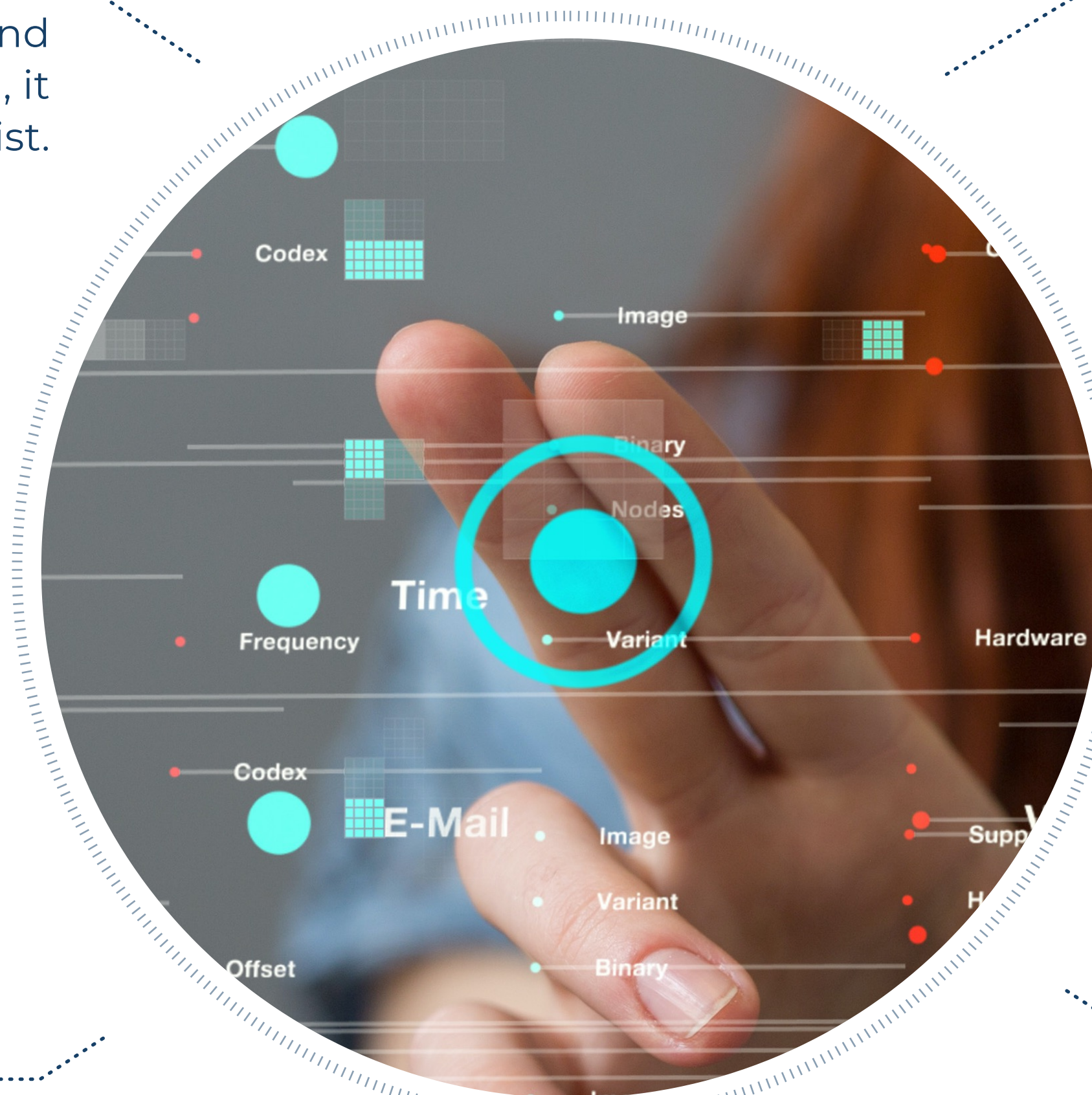
The use of common interaction patterns provide instant learnability. For example, once someone knows how to use a fork, they always know how to use a fork. The same notion applies to UI components such as buttons or menus.

Visual Hierarchy

Visual hierarchy enables the user to focus on and take action on those items that are most important - and can be achieved by balancing properties such as size, contrast, proximity or color.

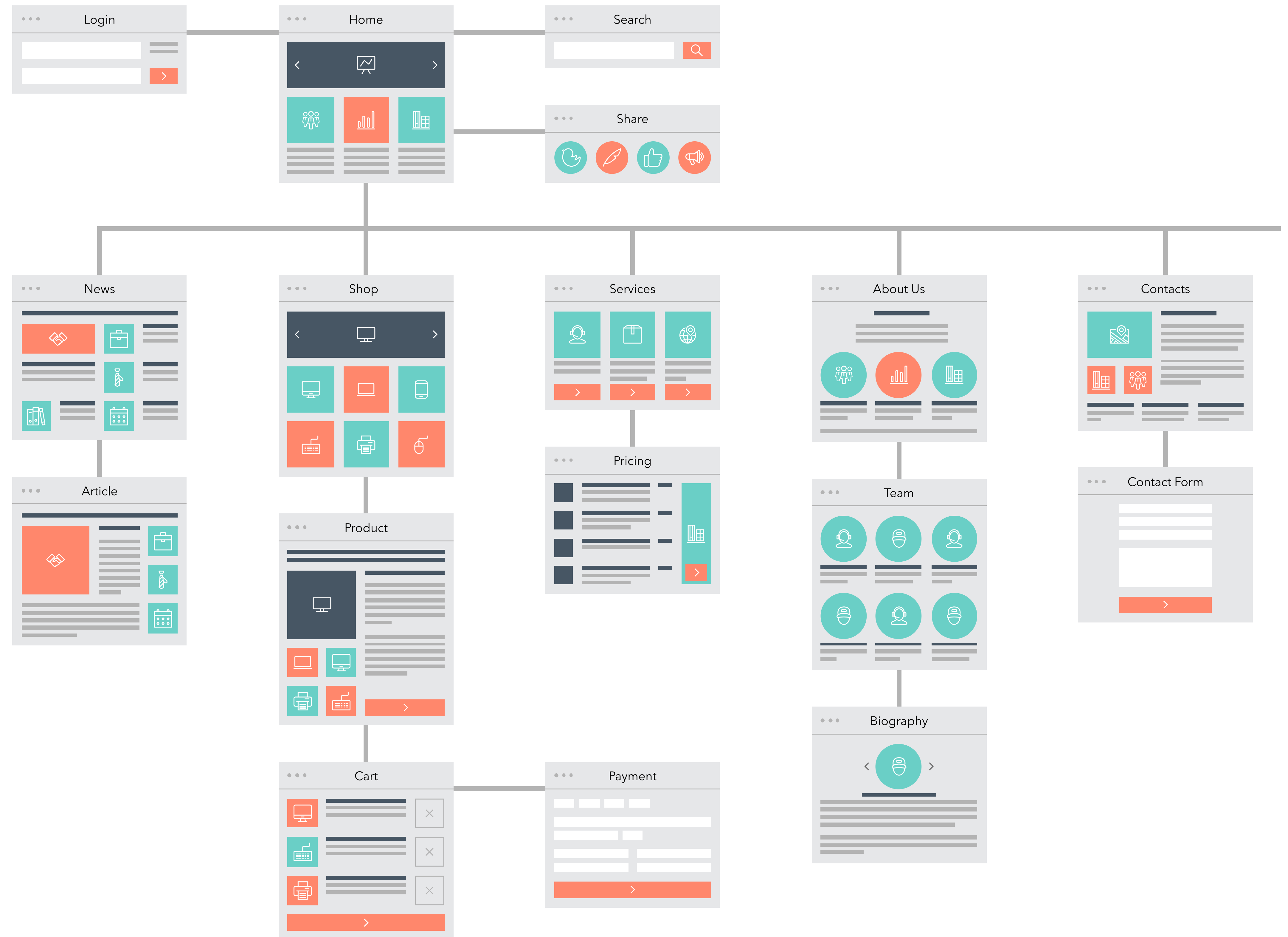
Recognition & Recall

Designs that utilize recognition throughout an experience make it easier and faster for users; requiring users to recall information creates a higher cognitive load.

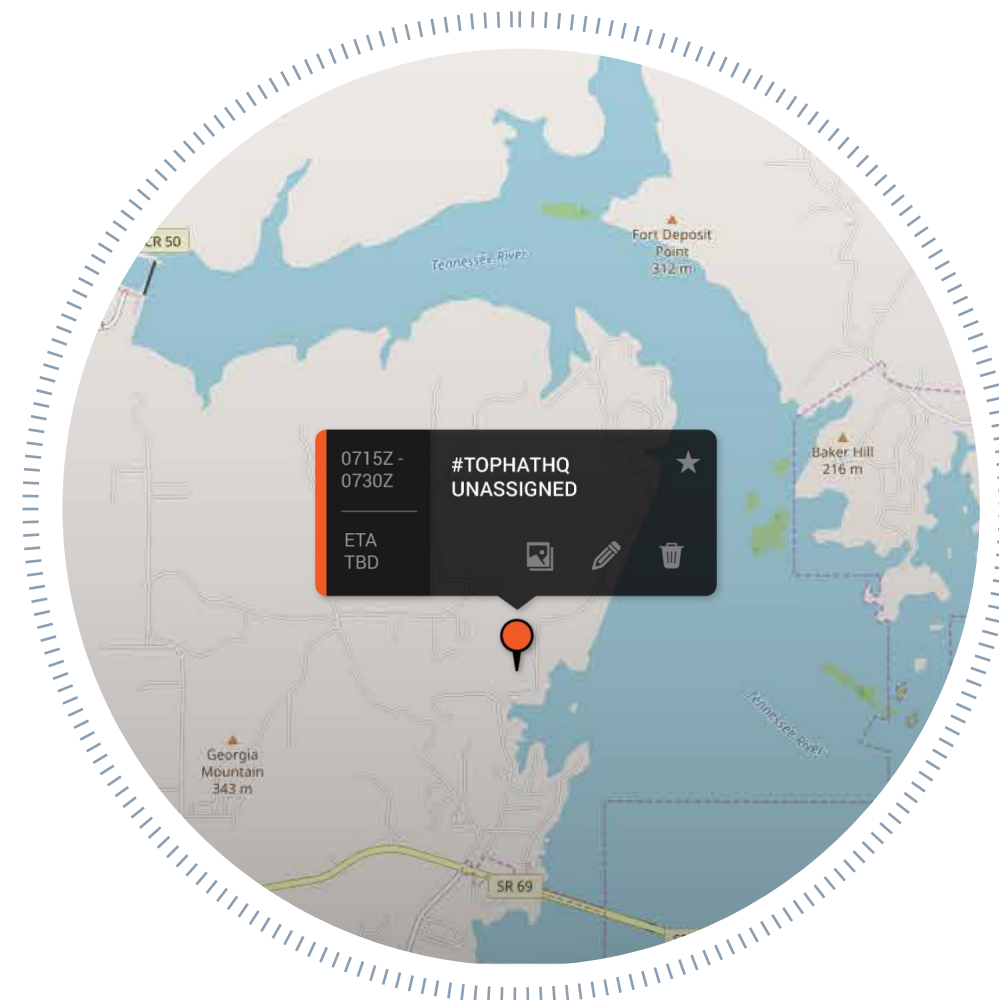


INFORMATION ARCHITECTURE

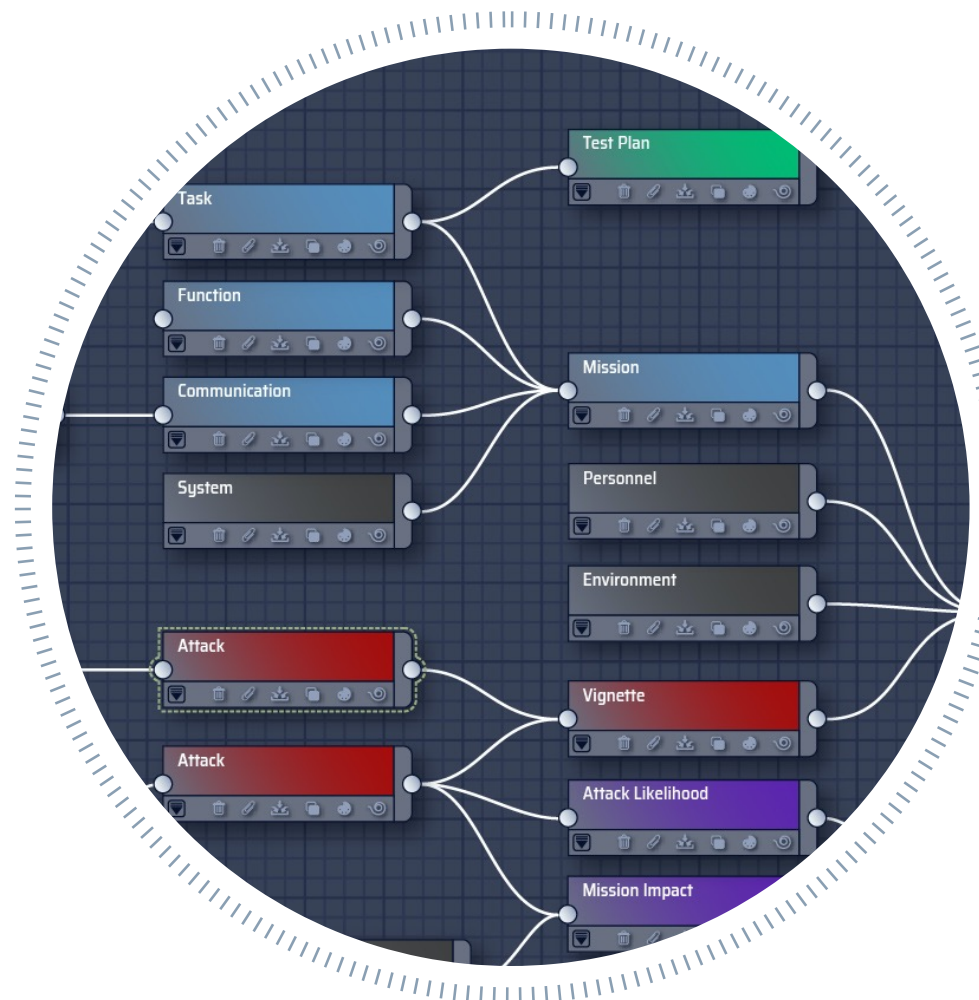
Information architecture concerns the clear and logical organization of information within a system. It is important to structure complex information hierarchies in a way that make them easy for the user to navigate. This increases both efficiency and satisfaction.



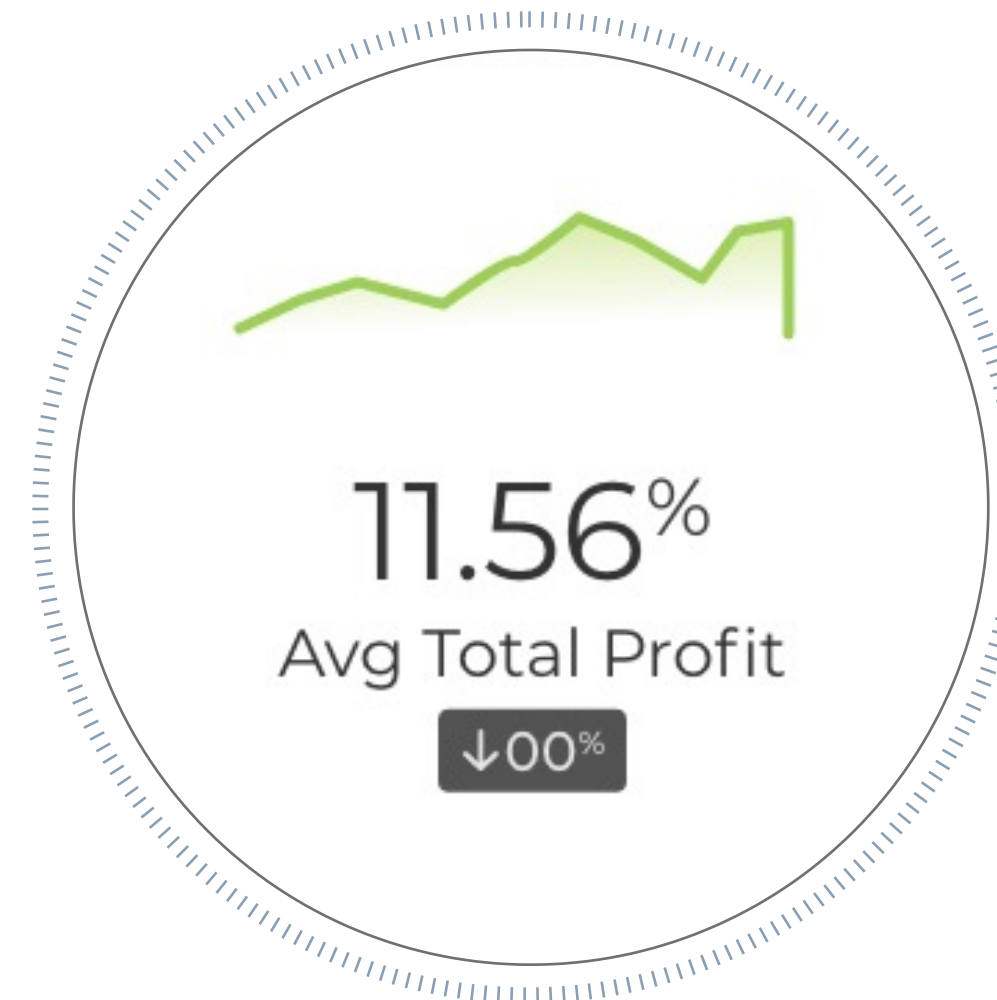
PRODUCT DESIGN



METIS



nexus



Twenty20

Product design is about conceptualizing, creating, and refining marketable products that address the needs of a target user group. A product is anything that can be produced and sold, ranging from the material (tangible objects) to the digital (such as software systems). Understanding the end-user (the person for whom the product is being designed) is critical to successful

product design. At Trideum, our UX team specializes in the production of complex digital assets. Our product line-up includes educational games, mobile applications, intelligent management tools, ground control interfaces, monitoring systems, configuration management software, and more!

PRODUCT DESIGN



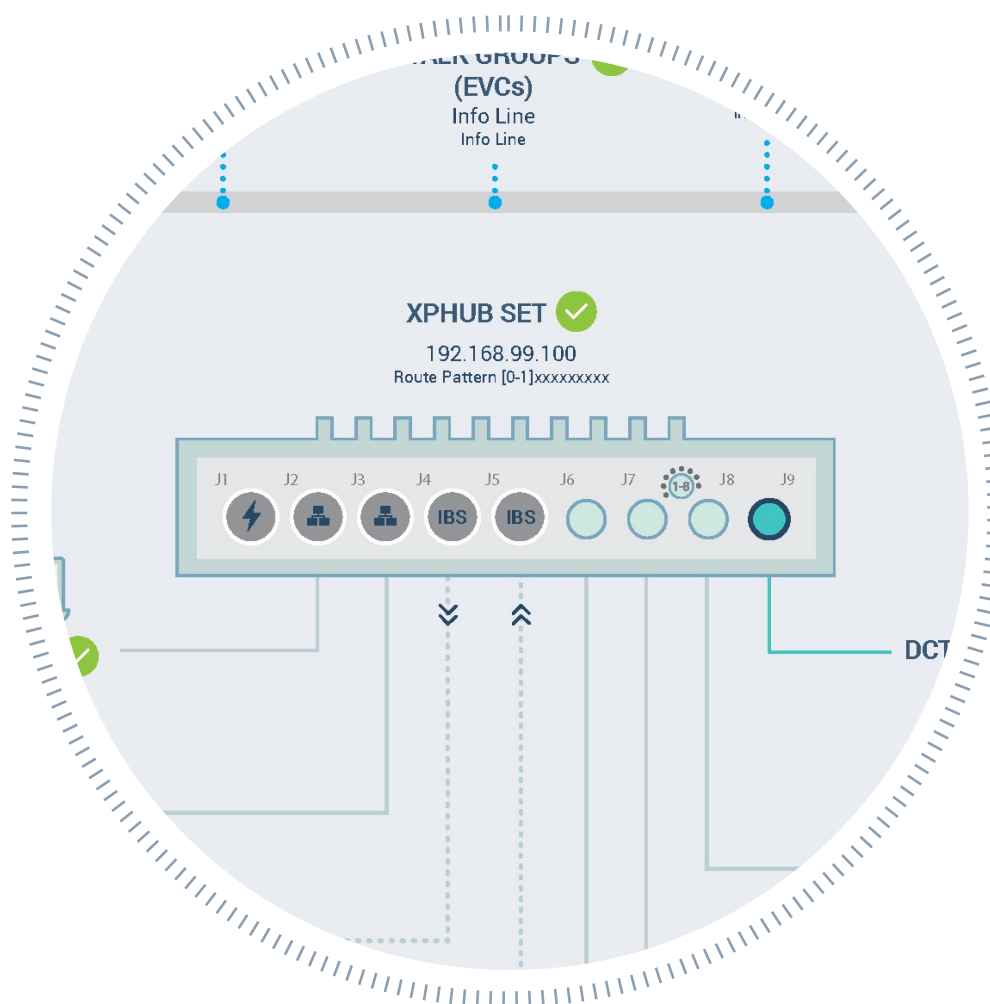
BLUVECTOR.



MMC
GENERAL ATOMICS



SIMChEC



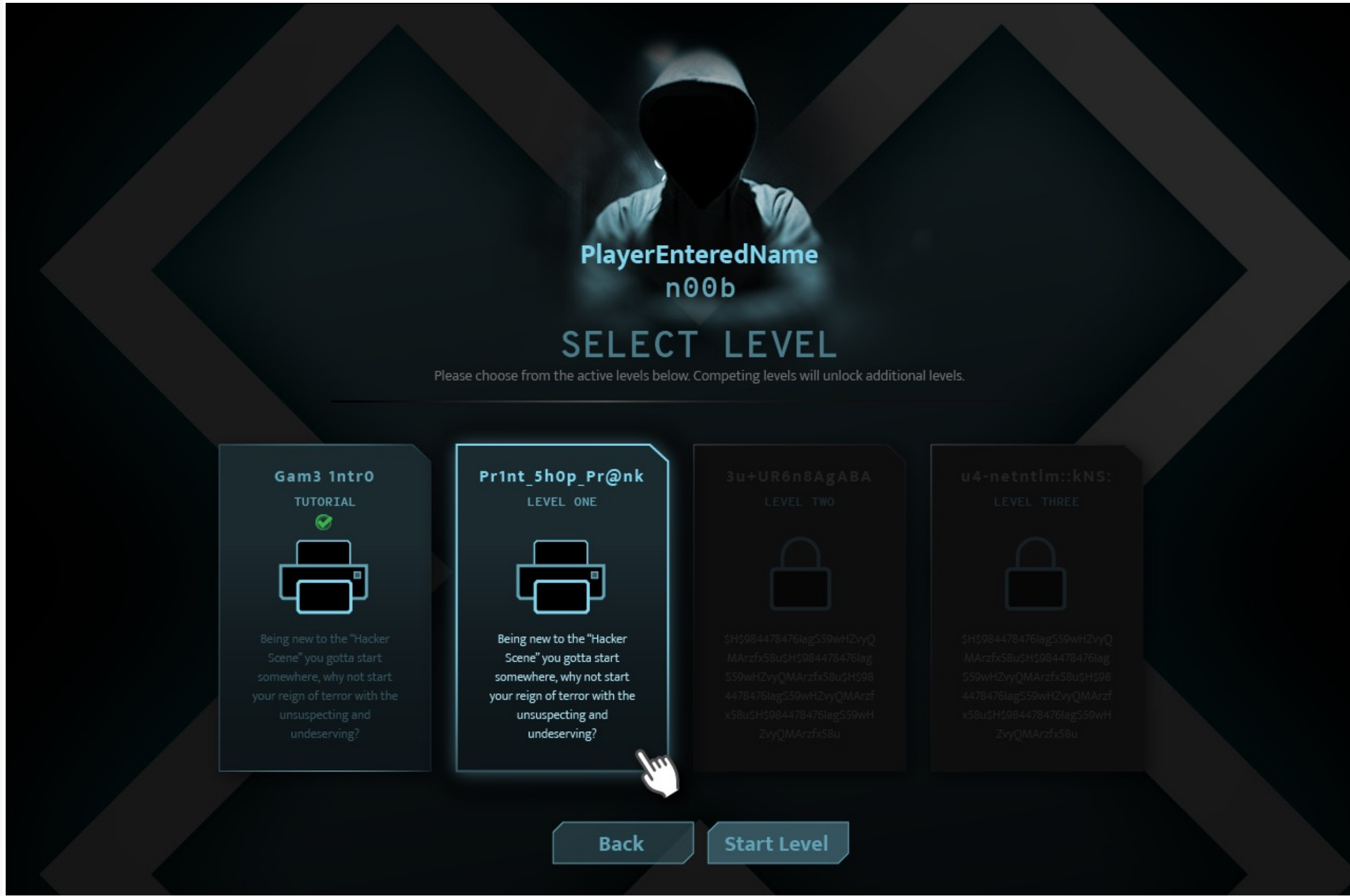
COMMUNICATIONS
MANAGER
SANMINA SCI

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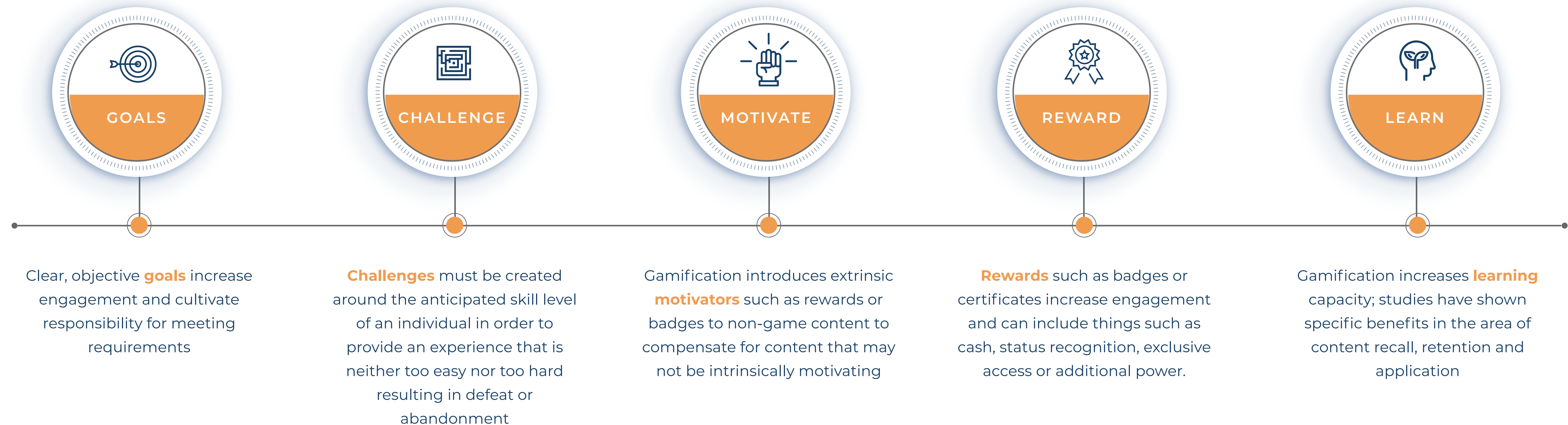
GAME DESIGN

UX and game design go hand in hand – both concern how a person experiences the end product. Whereas UX is about solving problems, game design is about creating and redefining problems (or challenges) for the users (or players) to solve. In game design, defining appropriate levels of challenge is crucial to engaging play.



GAMIFICATION

Game design principles such as competition, scoring, and rewards can be applied to non-game contexts as well, in the form of gamification – which can help to encourage engagement with the product or service. Gamification takes advantage of human psychology by repurposing the dopamine reward systems to promote specific user behaviors.



BRANDING & VISUAL DESIGN

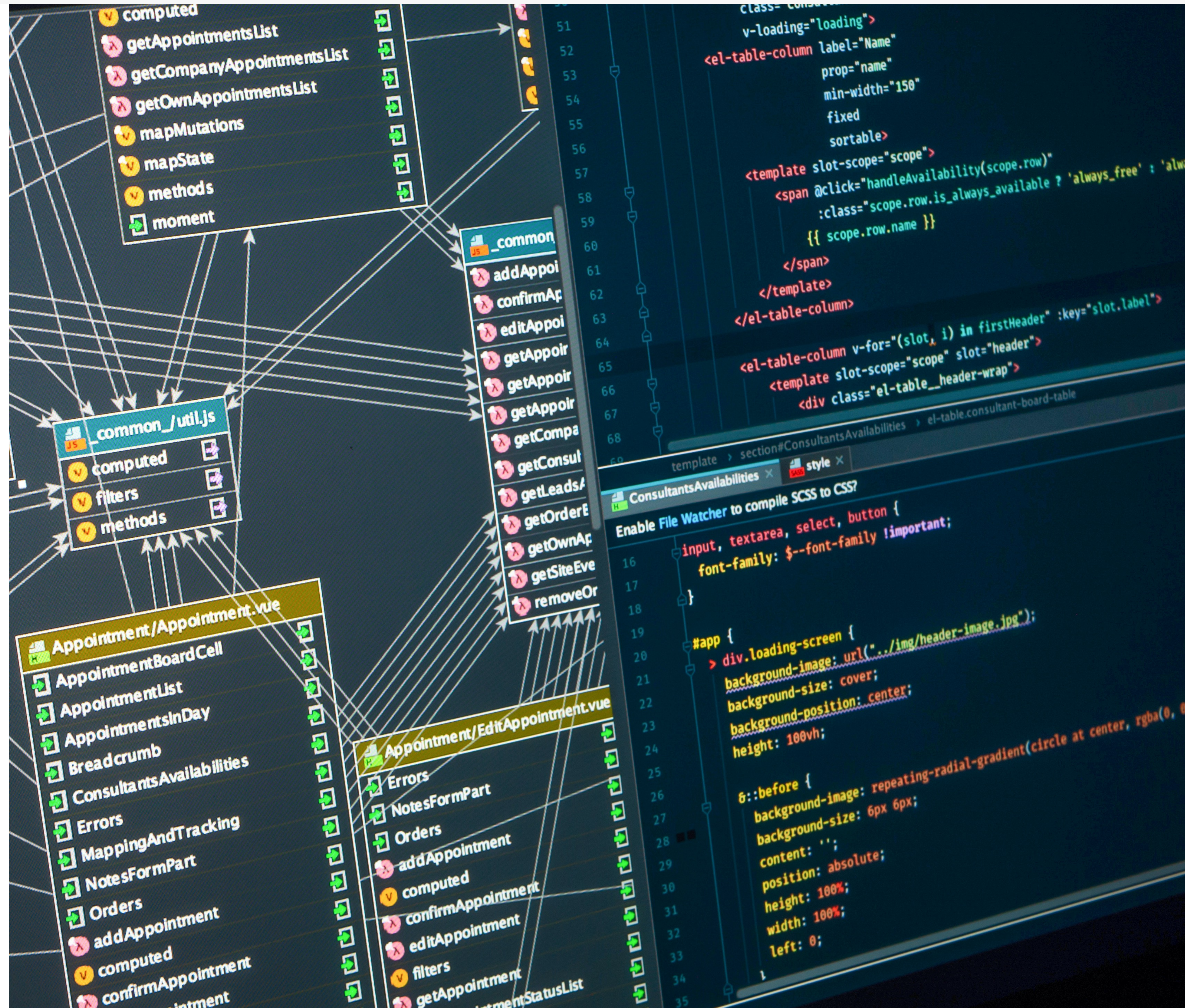
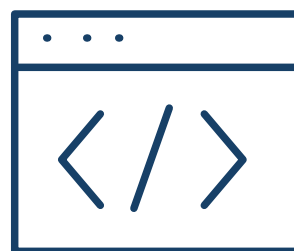
Branding is the practice of building a unique and recognizable professional presence. Companies, products, and sales teams use branding to get recognition, increase business value, generate new customers, improve employee pride, and create trust with consumers.

To build a brand, creative teams have to turn insight into innovation. Creative teams conduct and evaluate marketplace research in order to successfully find and establish a brand's place in the world. Once they have found where the brand fits in, they use language and visual arts to tell the brand story. The most successful brands stand out while also connecting with their audience's values. Beyond creating logos, our team can help envision a new brand or strengthen and personify an existing brand.



DEVELOPMENT

From consulting, prototyping, and front-end development to developing out code for robust systems architecture, our dev team is involved throughout the UX process. By embracing the challenges that others say can't be done – while always keeping the end-users front of mind – our devs consistently build, deliver, and implement top quality and easy-to-use software.



WORKSHOPS & CONFERENCES



In addition to providing UX services on contracts, our team of experts has the capability to offer hands-on training for your team (virtually or on-site). Workshops can be customized around your specific learning objectives. These events are ideal for groups seeking to increase awareness and understanding of UX value, processes, and methodologies.

In 2020, Trideum proudly established and sponsored the first annual UX Rising Conference in Huntsville, AL. This half-day mini conference was an opportunity for the local UX community to come together to celebrate and share industry knowledge and interests. Stay tuned for future events and happenings.

MIKE HUBLER
Trideum

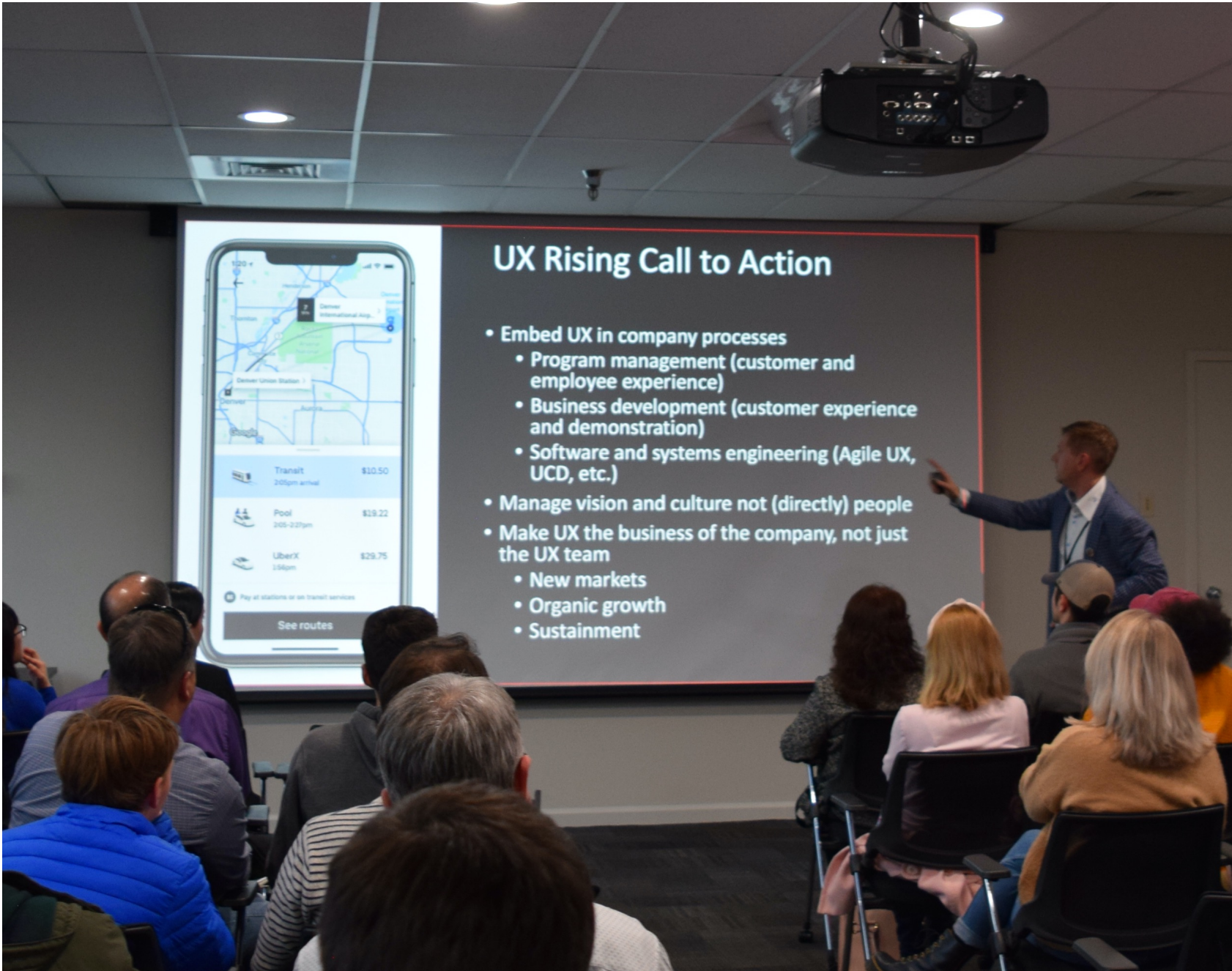
JARED SPOOL
User Interface Engineering

ANDREW ENGLAND
Hexagon

JOE DAVIS
Synapse

CANDICE LANIUS
UAH

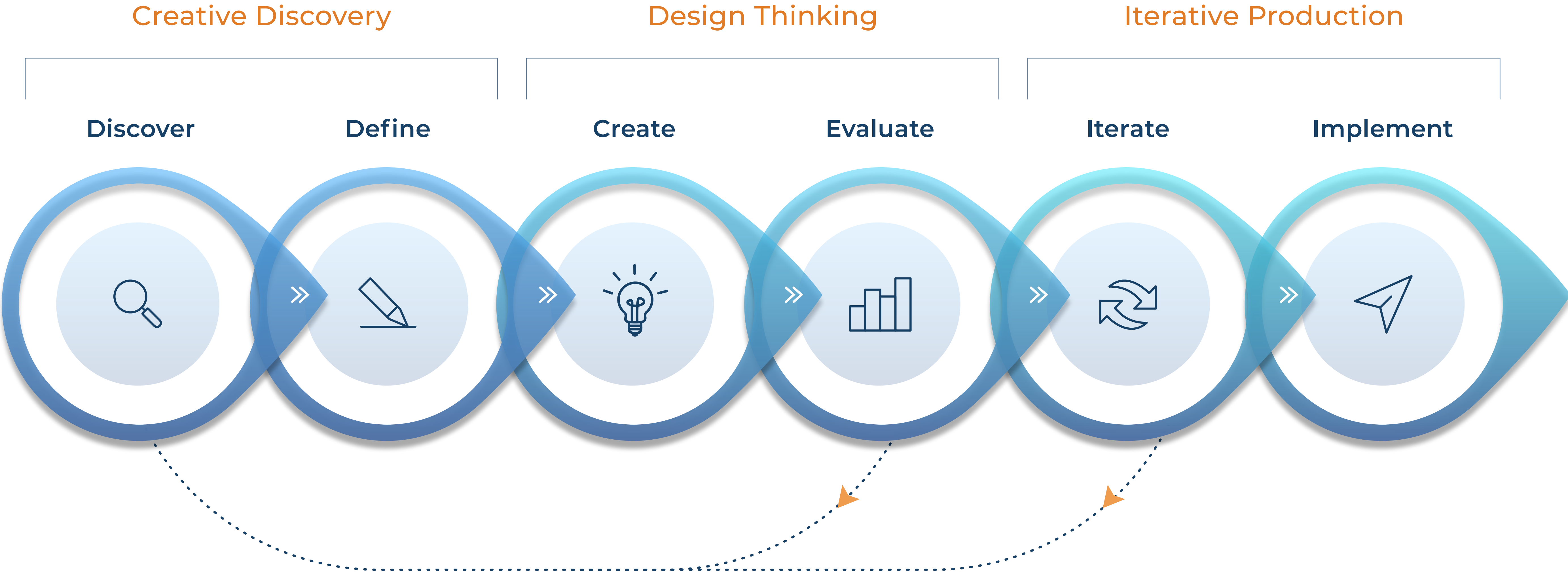
UX RISING
2020





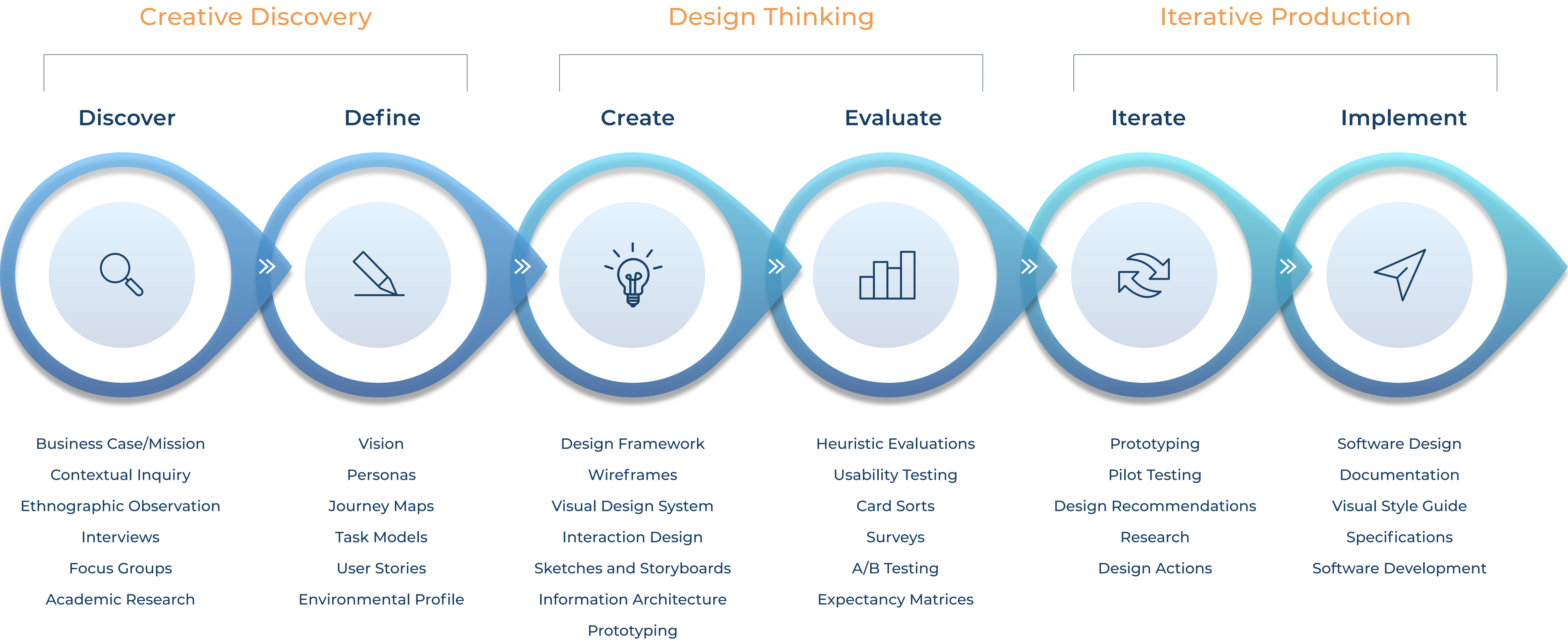
TRIDEUM UX

USER-CENTERED DESIGN PROCESS




USER-CENTERED DESIGN

The idealized Trideum UX process below is displayed as a linear process. The true process is iterative, customized and tailored based on customer needs and desired outcomes.



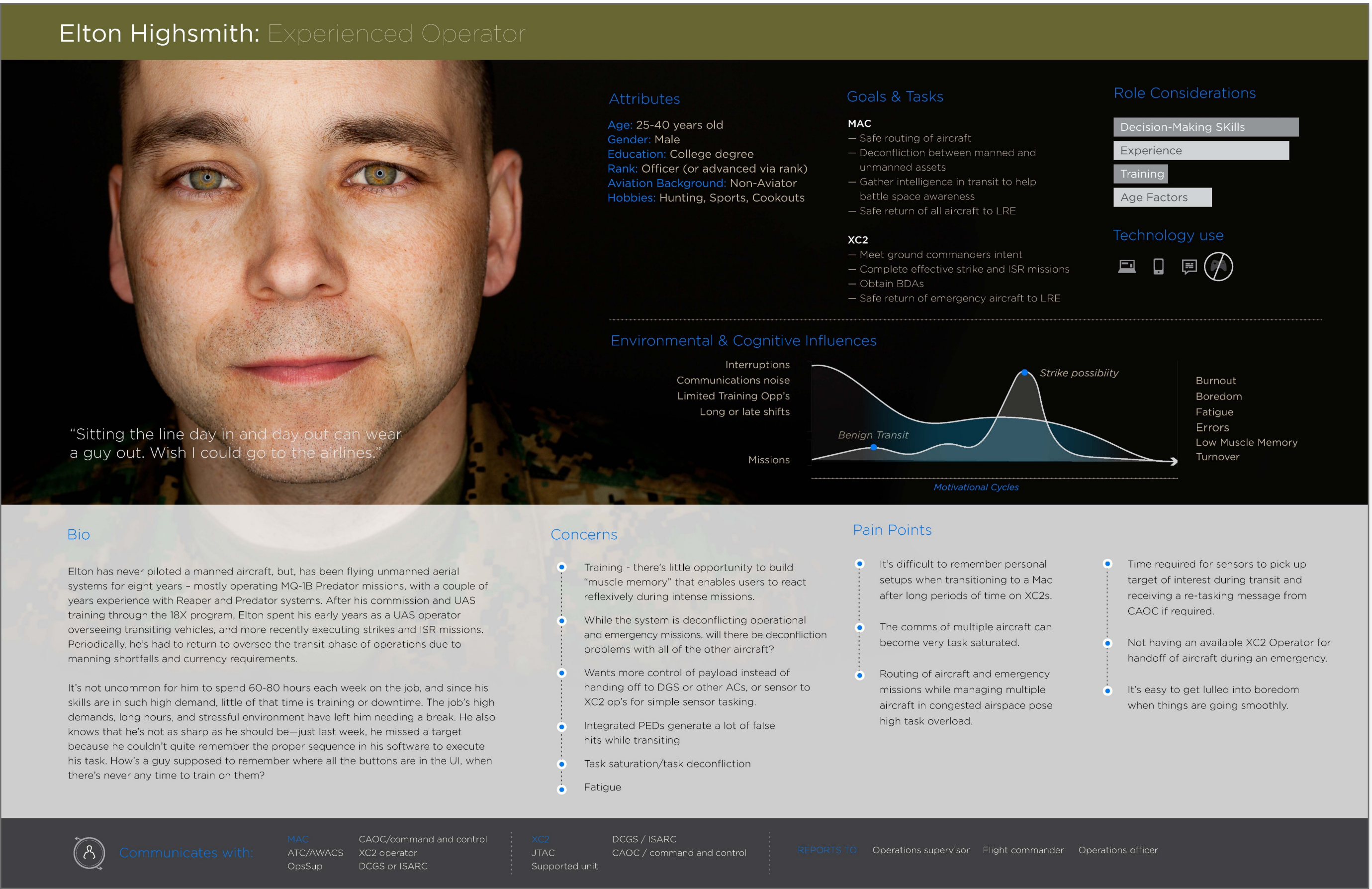
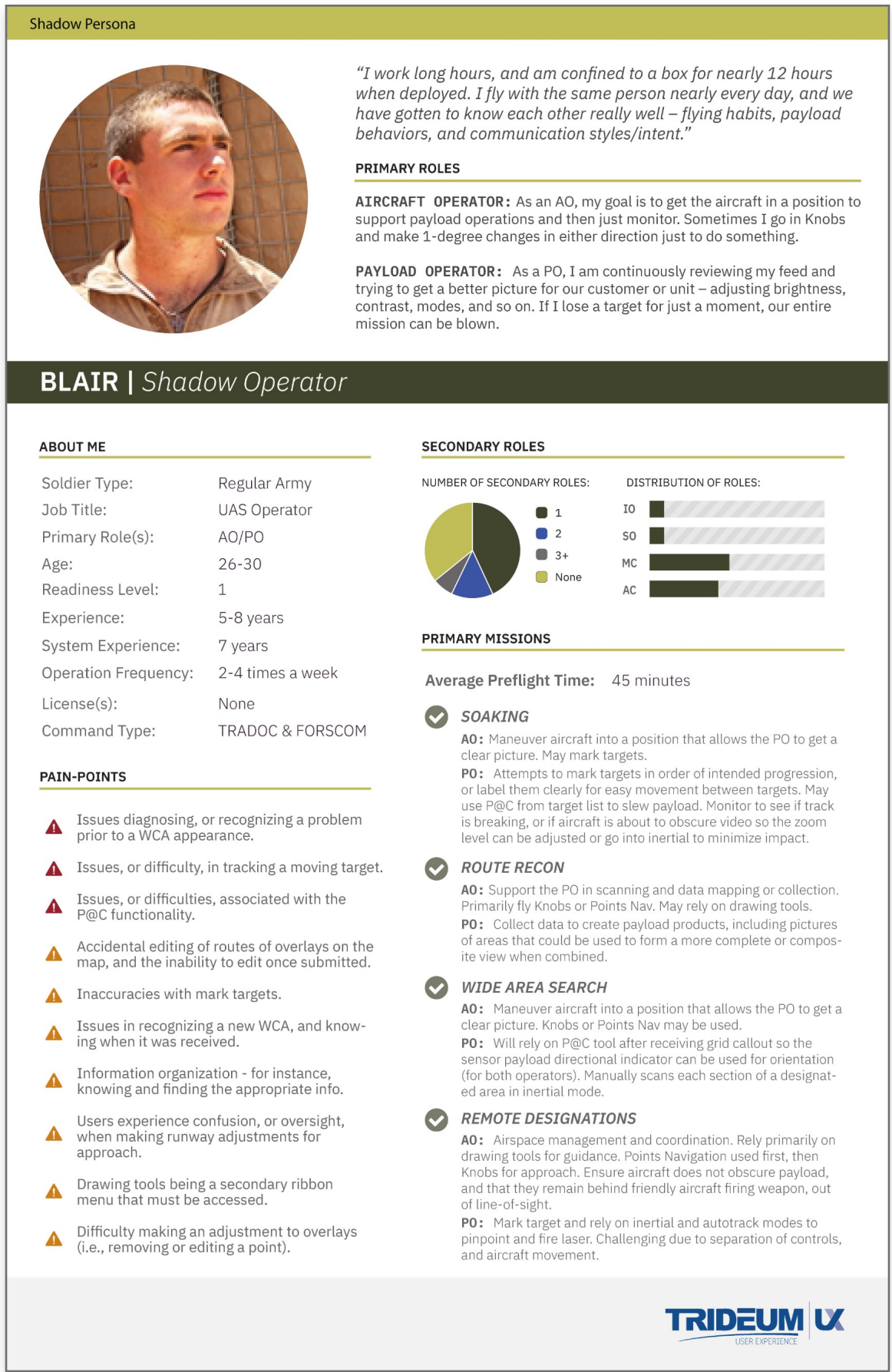
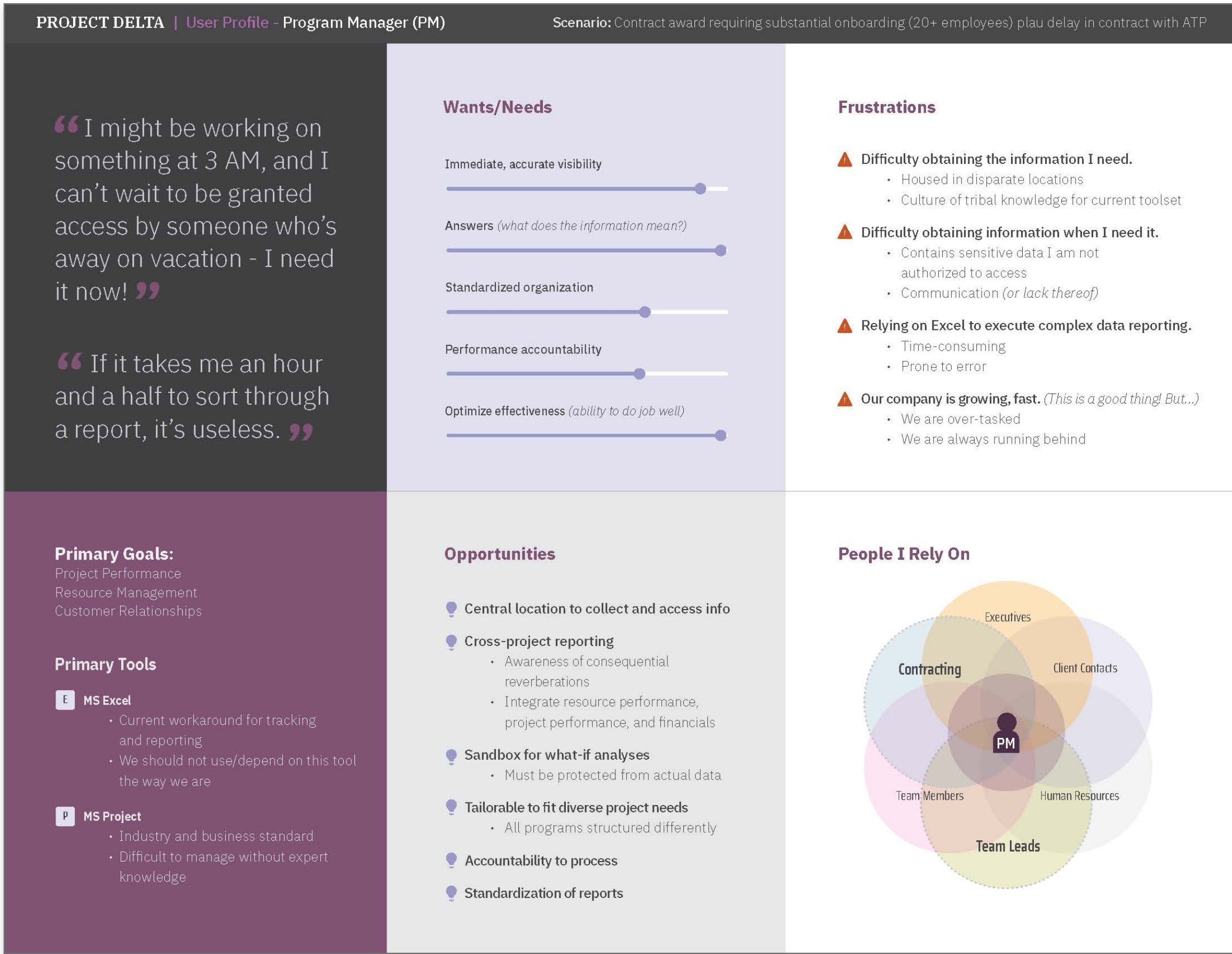
EVERY STEP INCLUDES: Collaborative Brainstorming, Design Reviews, User Research & Feedback



UX ARTIFACTS & METHODOLOGIES

USER PERSONAS

An empirical or hypothetical archetype personified into a character, typically defined by their goals.



User personas are research artifacts and tools that help the design team and stakeholders build empathy with the user(s) of a product, and to keep the users' needs, motivations, and frustrations in the forefront throughout the UX process.

USER STORIES & REQUIREMENTS

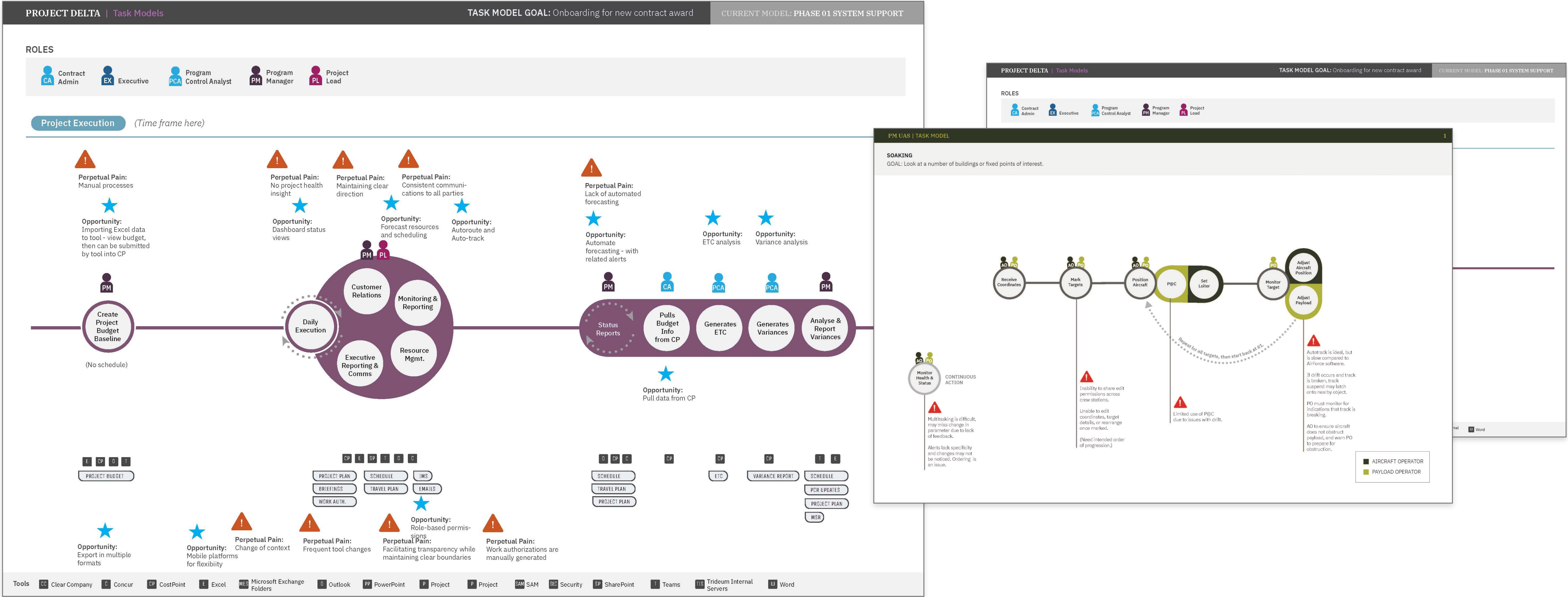
A collection of short, specific components describing a system or service used to guide design and development

As a [USER]...	...I need...	...so that...
Program Manager	to keep track of how much I've spent on ODCs (Overhead - such as for conferences)	I can plan ways to support employee morale such as with conferences or other incentives
Program Manager	to compare my profitability performance to the target profitability on a single project	I know how profitable my program is
Program Manager	to compare my profitability performance to the target profitability across multiple projects	I know how profitable my programs are
	to show budget tracking to customer	
Program Manager	to see my estimates versus actuals by dollars	I can see the variance between what I planned and what is being executed
Program Manager	to see my estimates versus actuals by dollars	I can see the variance between what I planned and what is being executed
Program Manager	to see my estimates versus actuals by labor category (LCAT)	I can see the variance between what I planned and what is being executed
Program Manager	to view data across all programs I manage	

Whereas system requirements focus primarily on what elements are needed for the product or service to be successful, **user stories** offer a goal-oriented and user-centered view of these items, which help the team to stay connected with the user’s perspective.

TASK MODELS

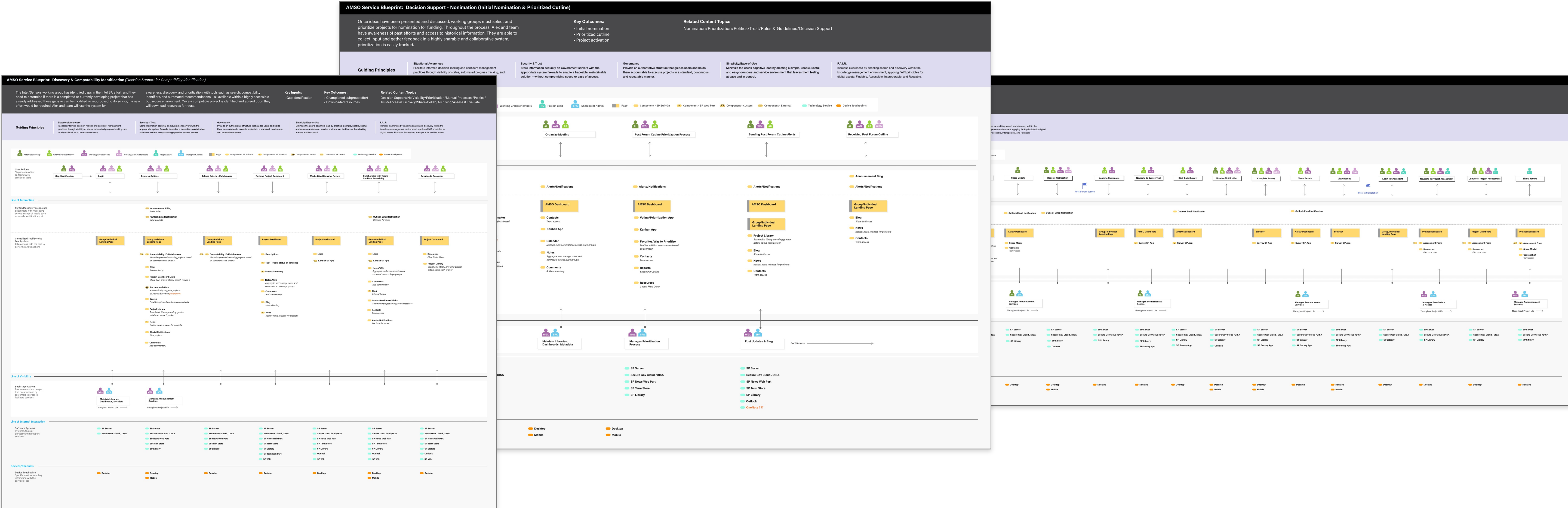
A visual representation of each step in a flow carried out to achieve a goal



A **task model** identifies a specific task or goal and articulates the steps and decisions a user makes as they work toward that goal. Task models enable us to understand the process, identify issues or inefficiencies in current task flows, and may also be used to convey enhanced or optimized task flow approaches.

SERVICE BLUEPRINTS

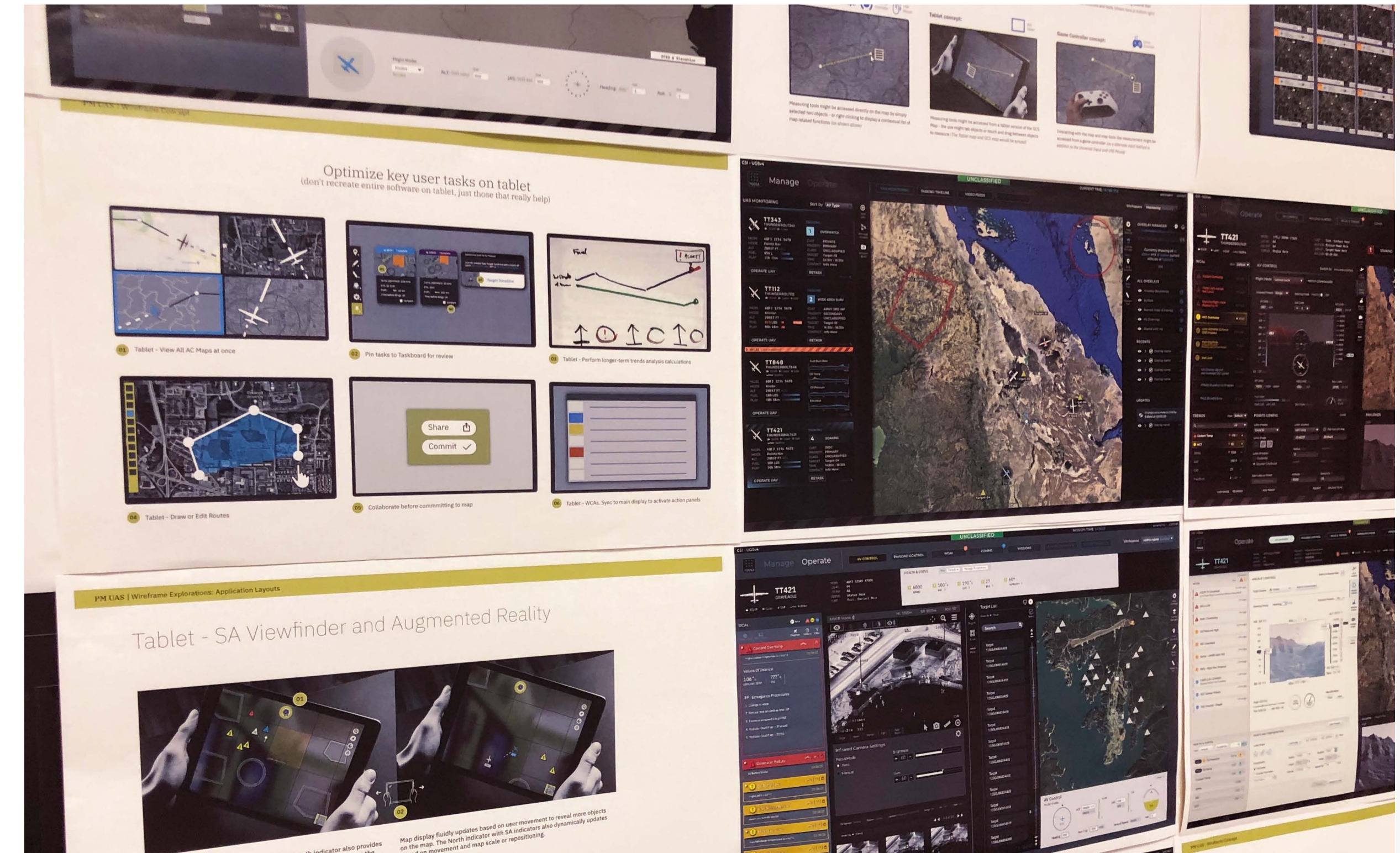
A diagram outlining the steps in a process and all the components that make each step possible



A **service blueprint** illustrates the entire process of service delivery – step by step – encompassing user-facing tasks as well as a look behind the scenes at the roles, touchpoints and systems that drive the process as a whole. The service blueprint can be used to draw attention to inefficiencies in a current workflow as well as to assist in defining a new or modified service process.

DESIGN REVIEWS

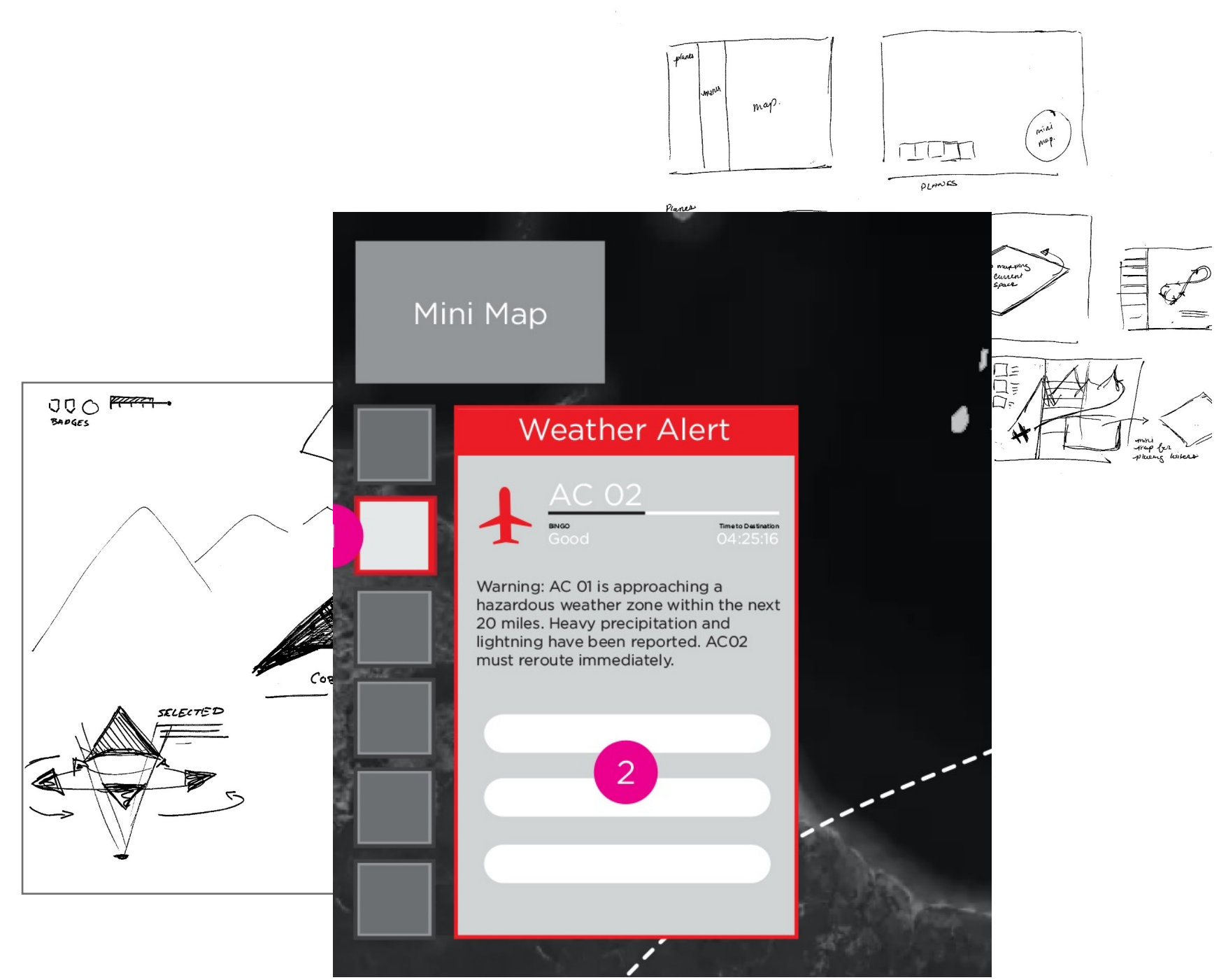
A meeting between the UX team and stakeholders for the purpose of revision or approval of deliverables.



The **design review** may include presentations of completed work and/or discussion of drafts in progress. It is an occasion for the UX team to provide updates and allow stakeholders to ask questions, identify challenges, and provide insights as the group comes to a shared understanding of the proposed solution.

PROTOTYPES

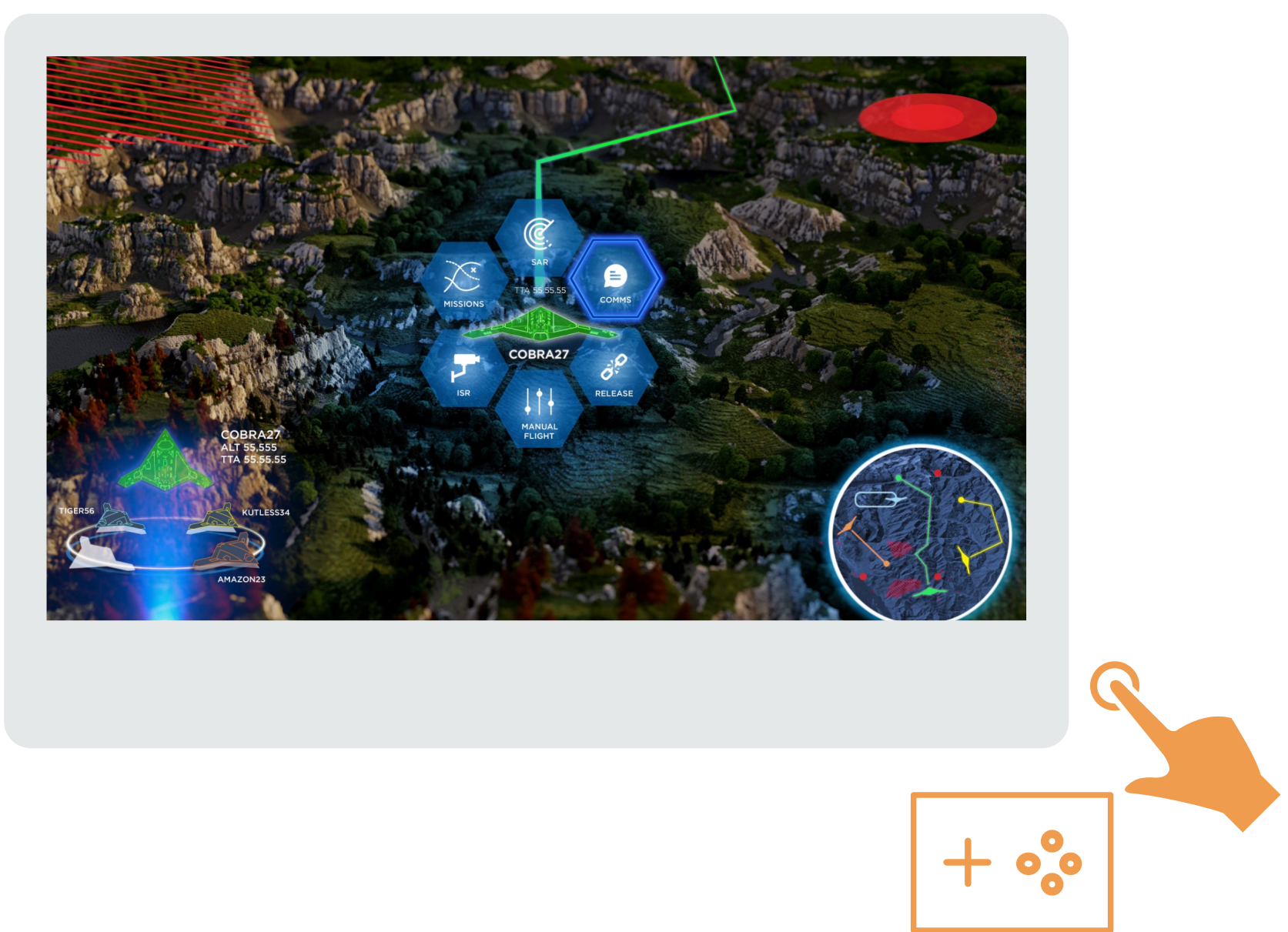
A simulated version of a product used for testing and evaluation



Low Fidelity



High Fidelity

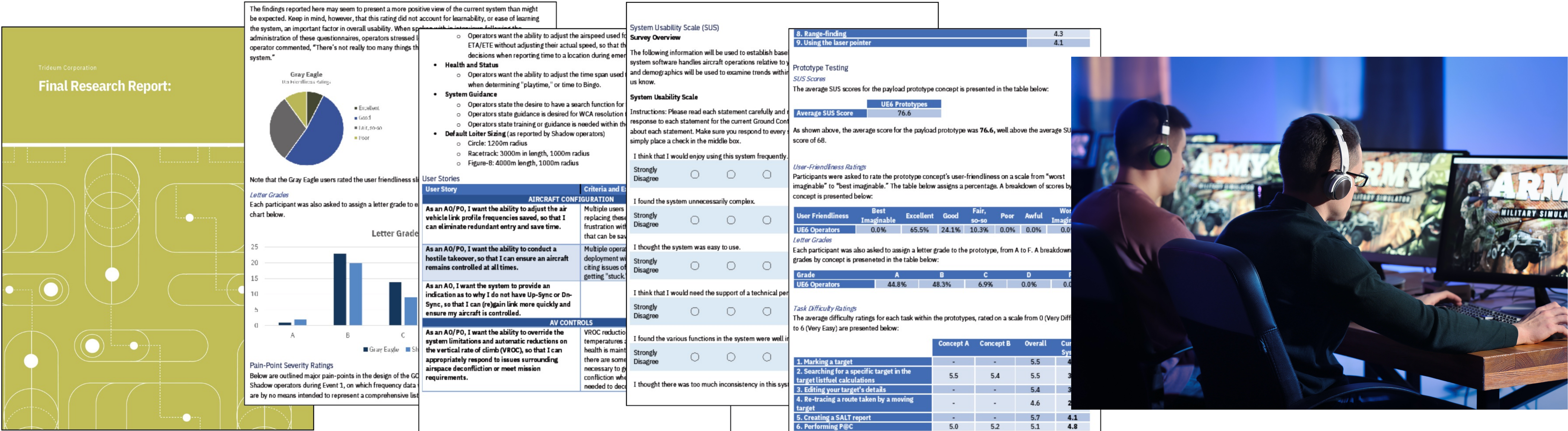


Highest Fidelity

Prototypes can range from sketches on paper to high-fidelity interactive mockups; they serve to represent designs and are typically used to assess interactions and collect usability feedback for iteration prior to a full development effort.

USER EVENTS

A sequence of activities occurring in a set time for concentrated user research and evaluation

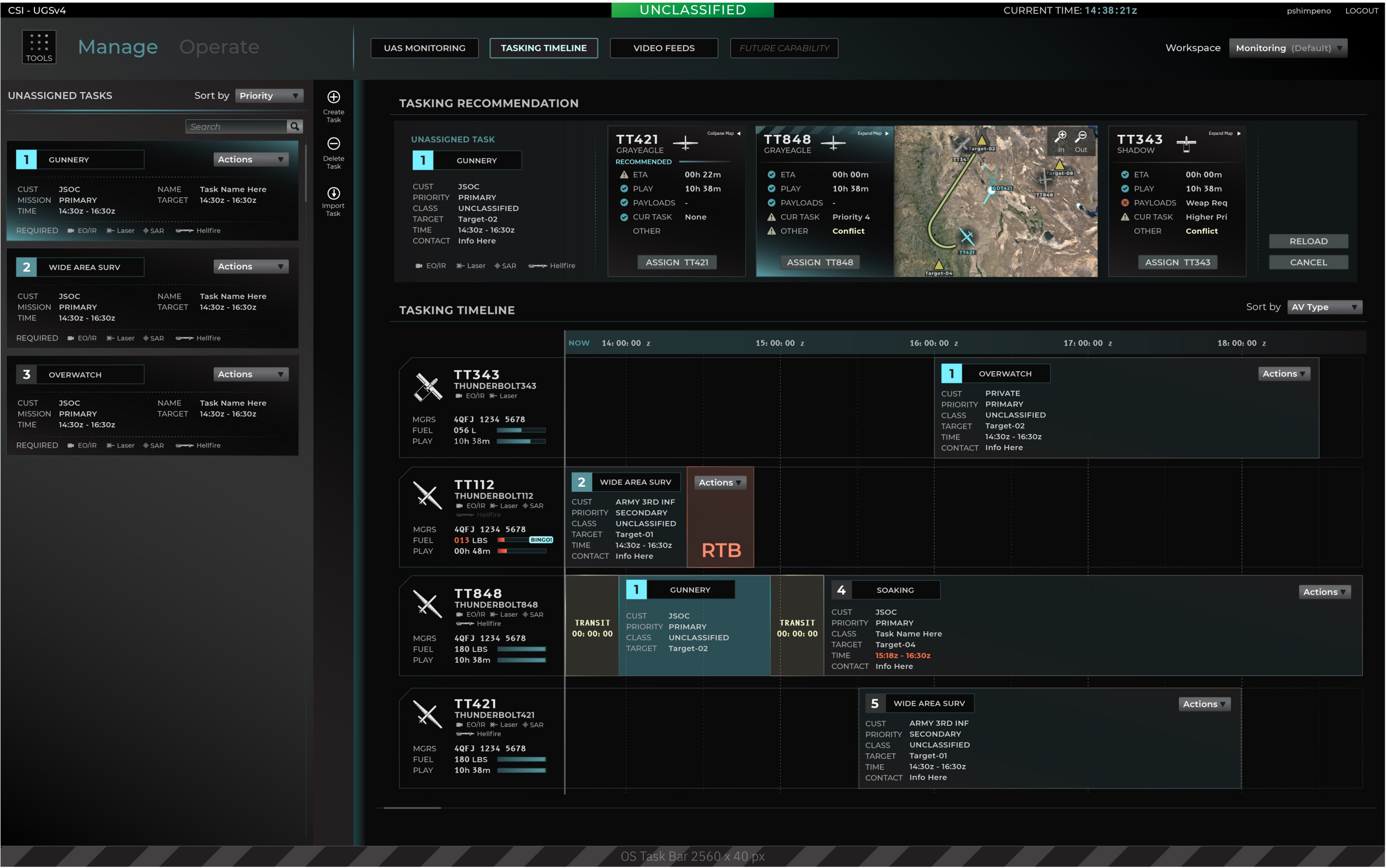
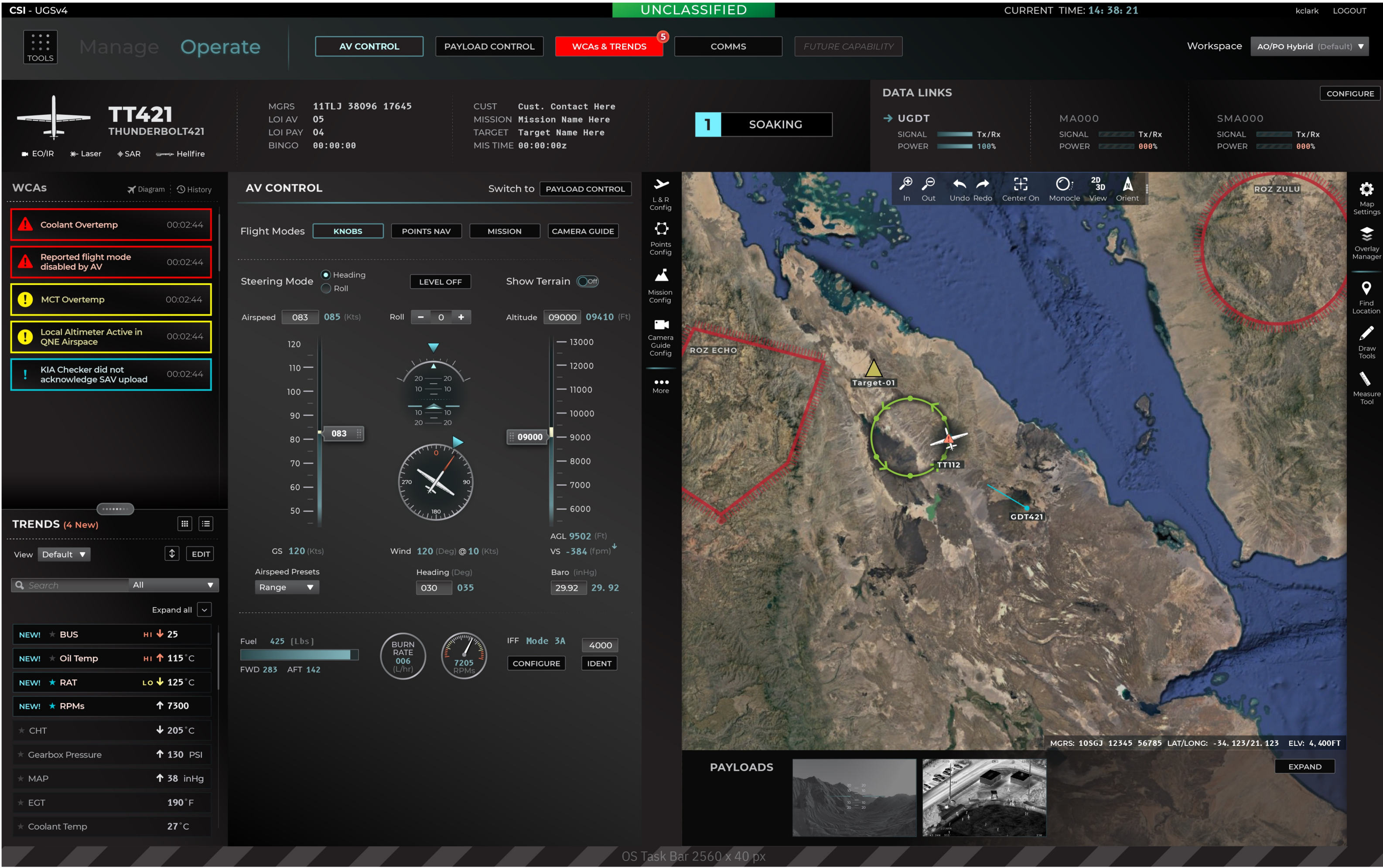


Information discovery and usability testing can occur throughout the UX process, dependent upon access to users and availability of resources. When these activities require special equipment or travel, or are subject to time constraints, they may be structured more formally as a “**user event**.” These events typically range from a few day to a week at a time, and provide an opportunity for the UX team and stakeholders to get a more intimate view into users’ behaviors within their natural environment – while gathering a large volume of data.



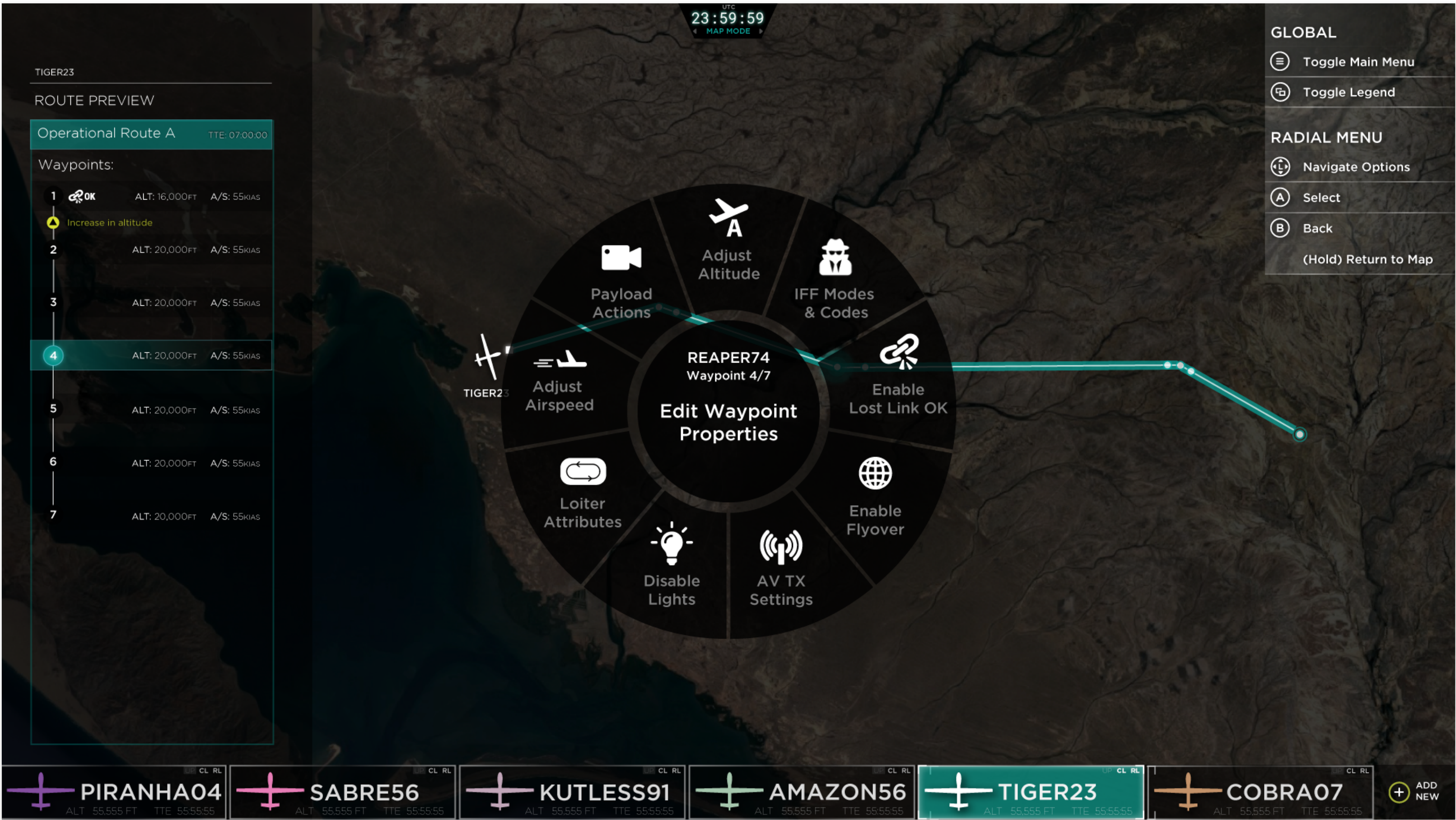
EXAMPLES & SUCCESS STORIES

PM-UAS



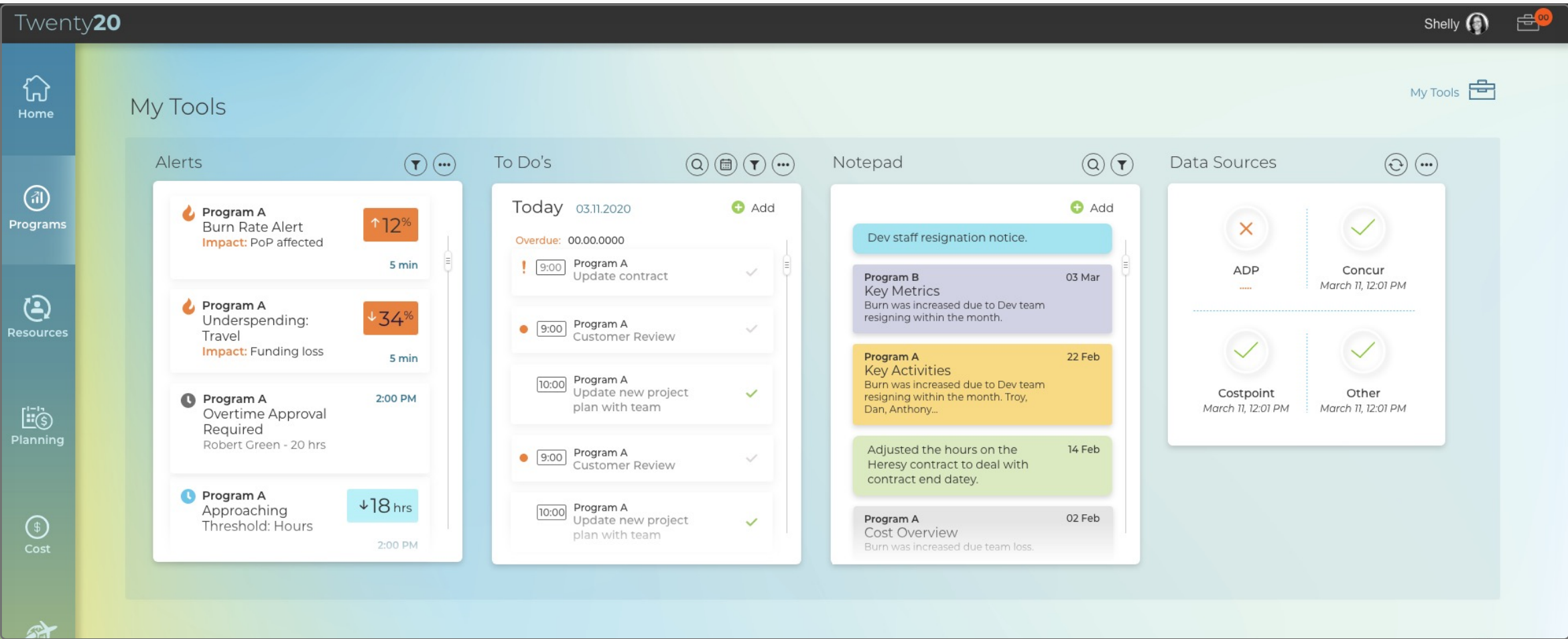
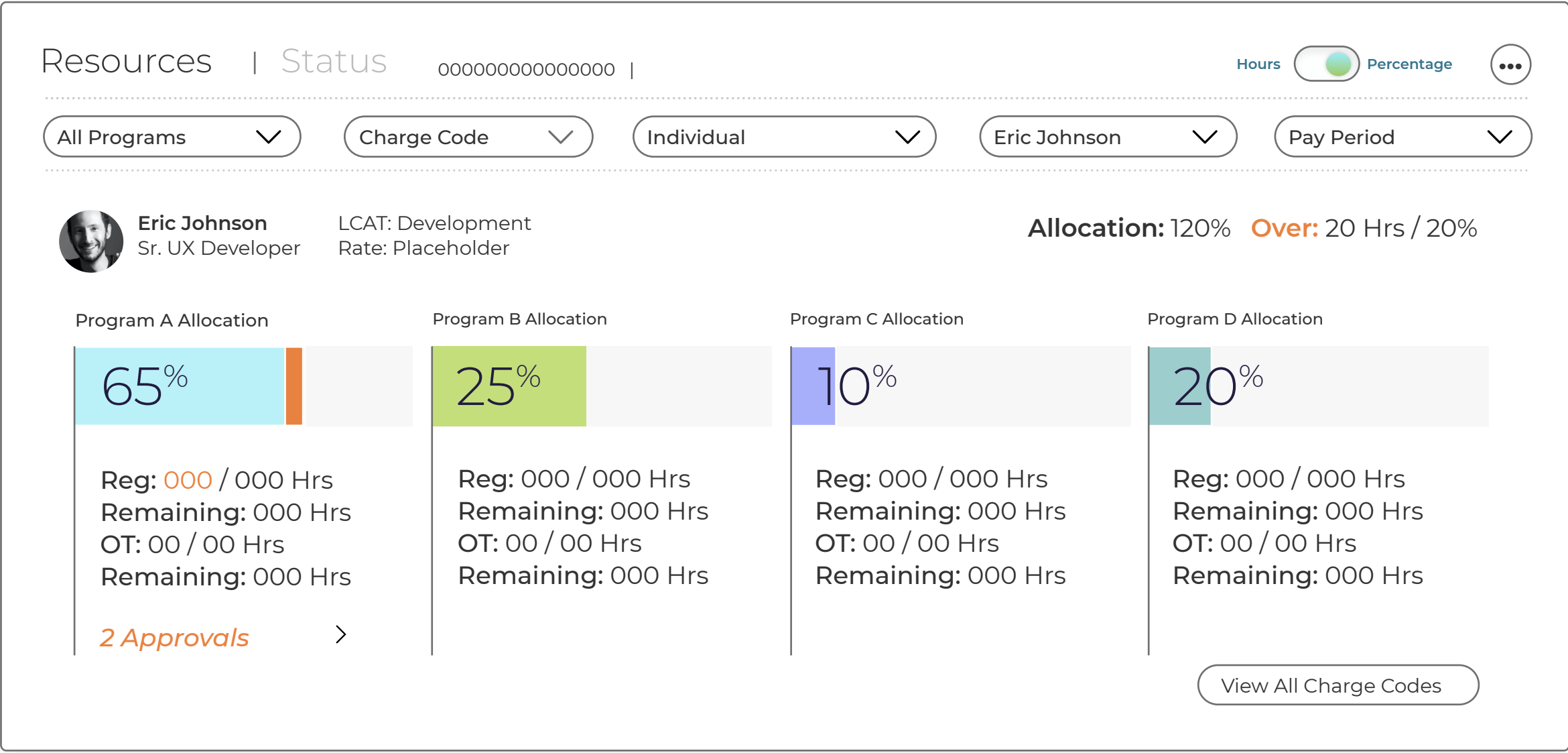
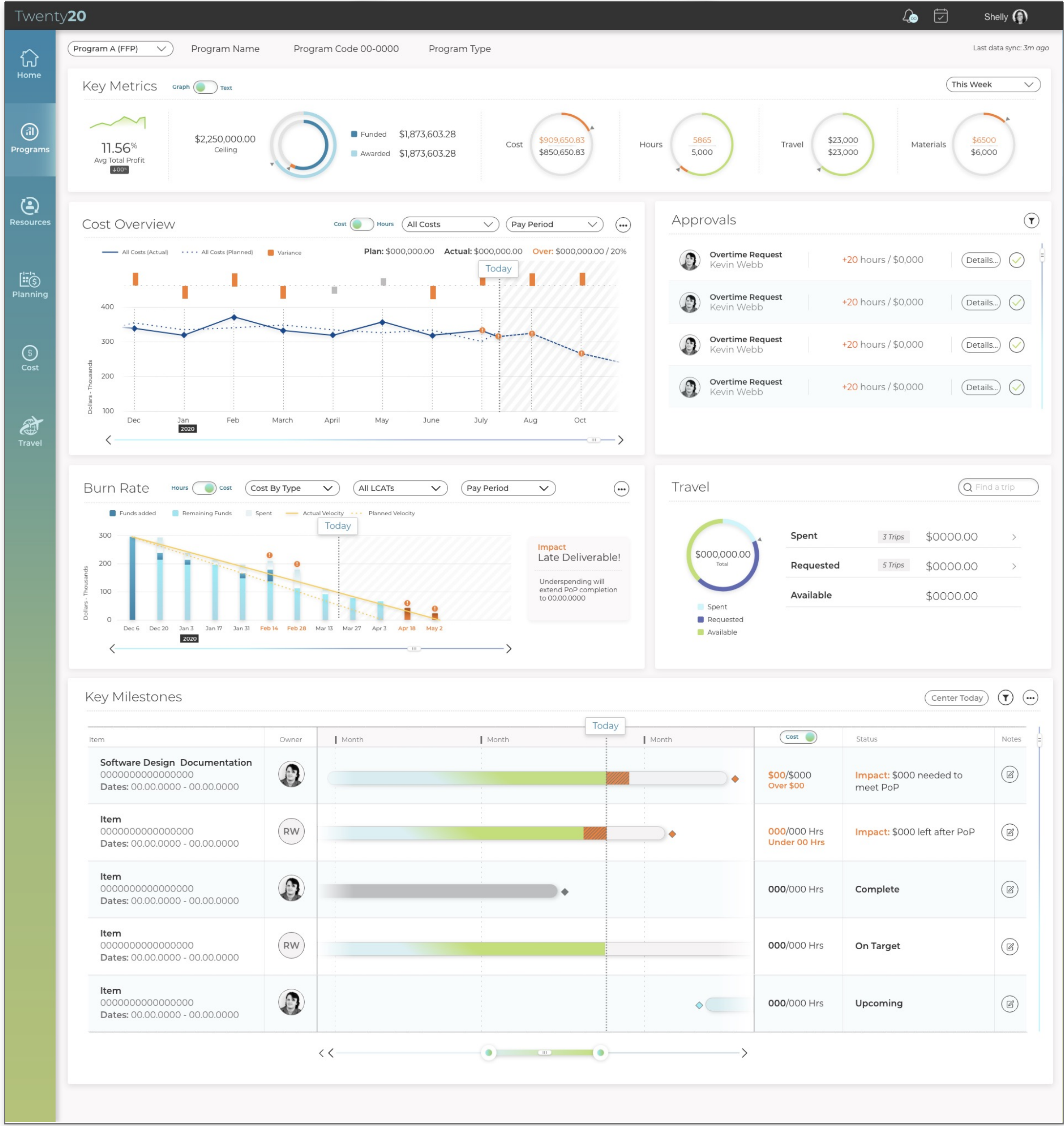
This system redesign of the army's UAV Ground Control Station human-machine interface reduced operator workload and while increasing productivity, minimizing training by producing an intuitive common interface from which a single operator can control a Gray Eagle or a Shadow UAV; and a single operator can perform payload operations while simultaneously controlling the aircraft.

GENERAL ATOMICS - MMC



A “smart,” platform agnostic, map-based tool that enables a single UAV operator to monitor and manage multiple missions with minimal input by providing a tactical picture overview - integrating flight information, task details, and airspace considerations anywhere one can establish a network connection.

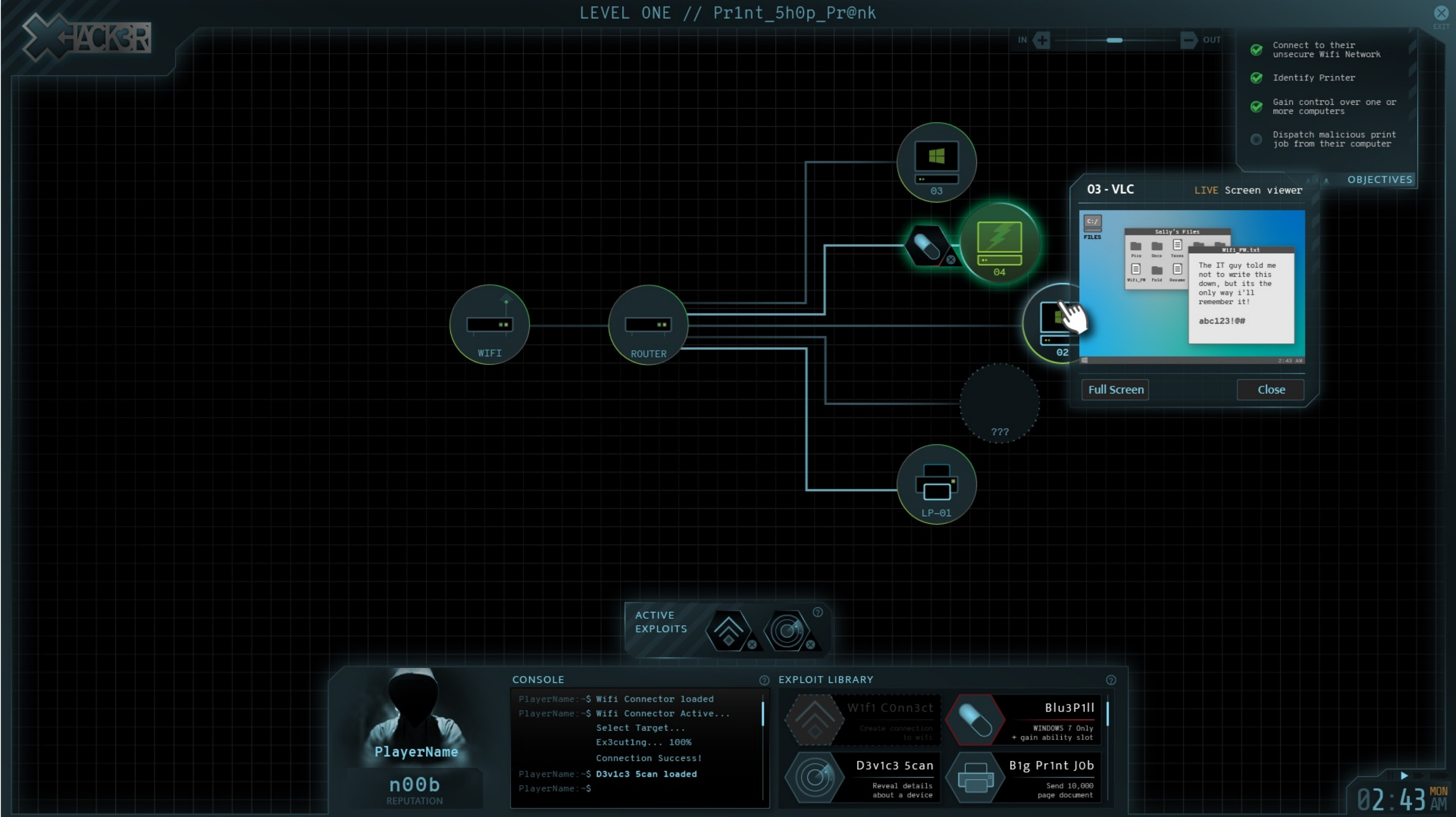
TWENTY20



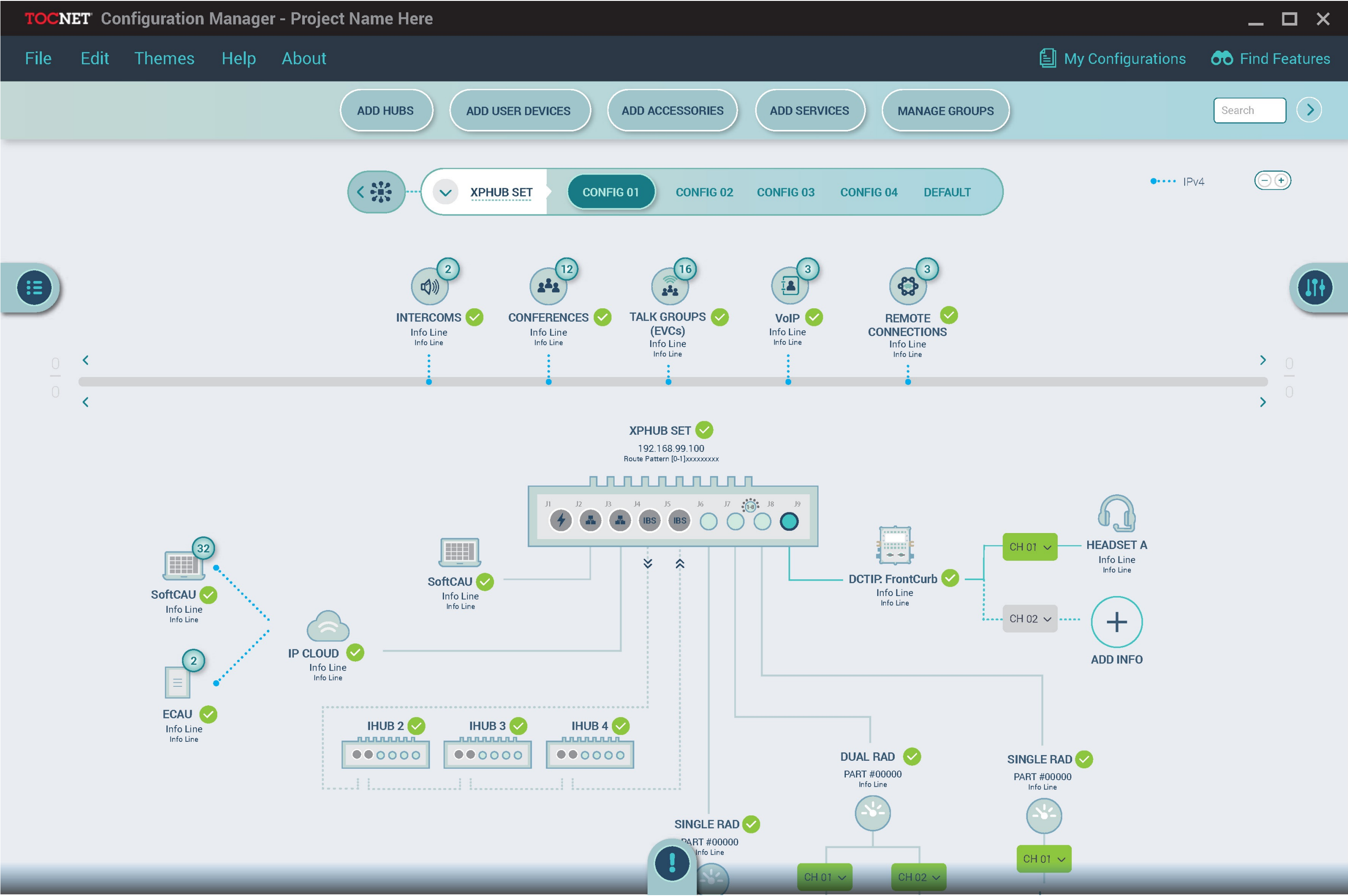
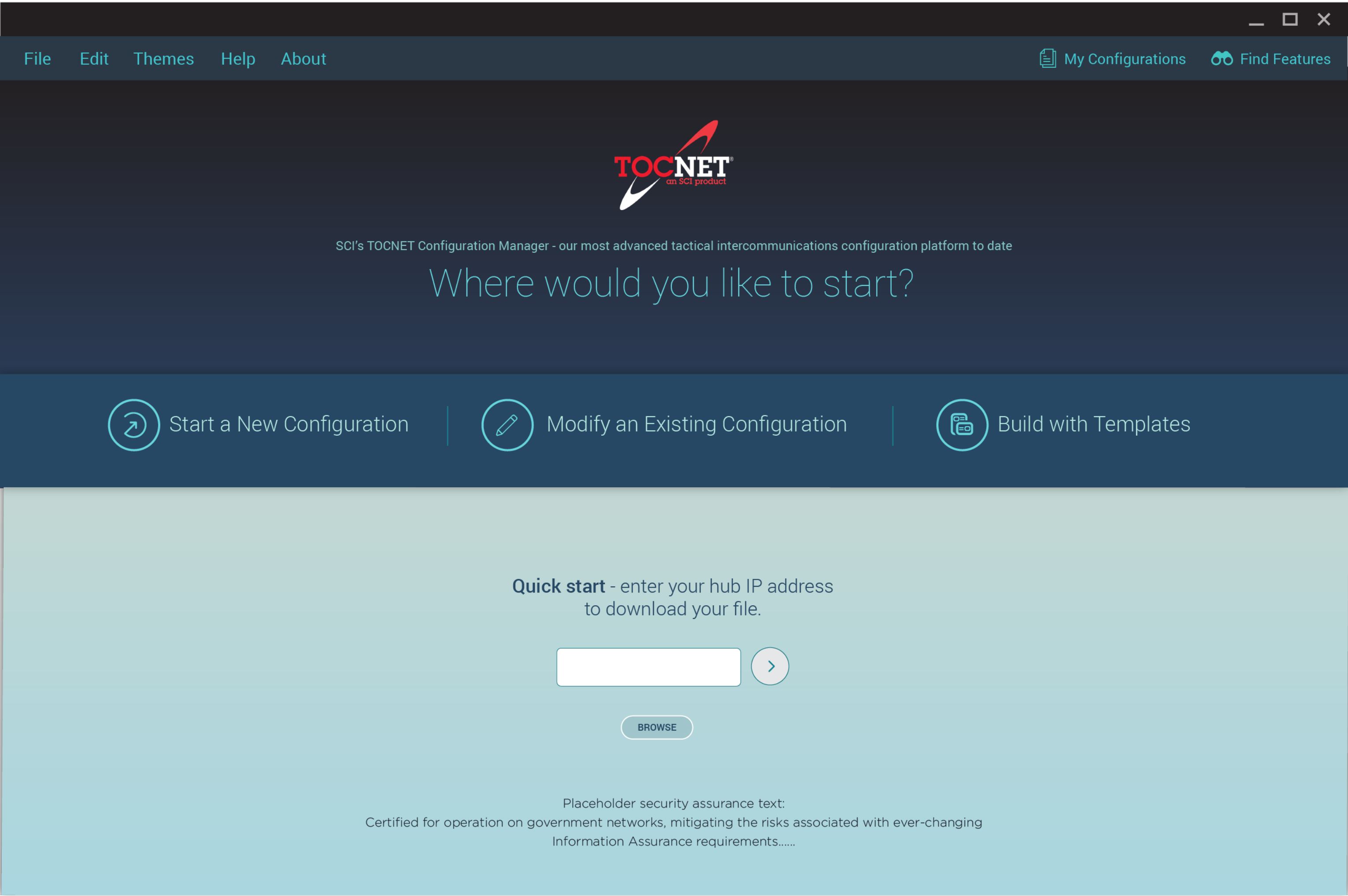
Twenty20

Twenty20 serves as a predictive guide that redefines the program management experience – bringing clarity, intelligence and profitability to complex programs. Powered by secure, integrated data with transparent and flexible views – collaboration thrives and programs excel.

X-HACKER



X-Hacker is a Interactive Cyber Strategy video game. As Trideum’s first submission to the I/ITSEC Serious Games Contest, the game went on to become a finalist. By introducing cyber terminology to players in a fun context and with purpose, X-Hacker teaches players to think from a different perspective, to imagine the motivations, goals and methods of actual hackers – and learn the skills necessary to stop them!



This digital interface redesign of the configuration manager for SCI’s Tactical Operations Center Intercommunications System (or TOCNET) guides the setup of command post and vehicle intercommunication systems by leveraging a node-based representation of connections, with smart defaults, and laymen terminology to increase usability and efficiency for non-technical users.

ESCAPE ROOM: LOCK DOWN



Escape rooms showcase the value of working together as a team to solve complex challenges in a fast-paced environment – and that’s what the Trideum UX team does every day. Our escape room experience teaches participants about common aspects of our UX process and tools or methodologies that we typically employ – while testing them on their ability to collaborate under pressure.

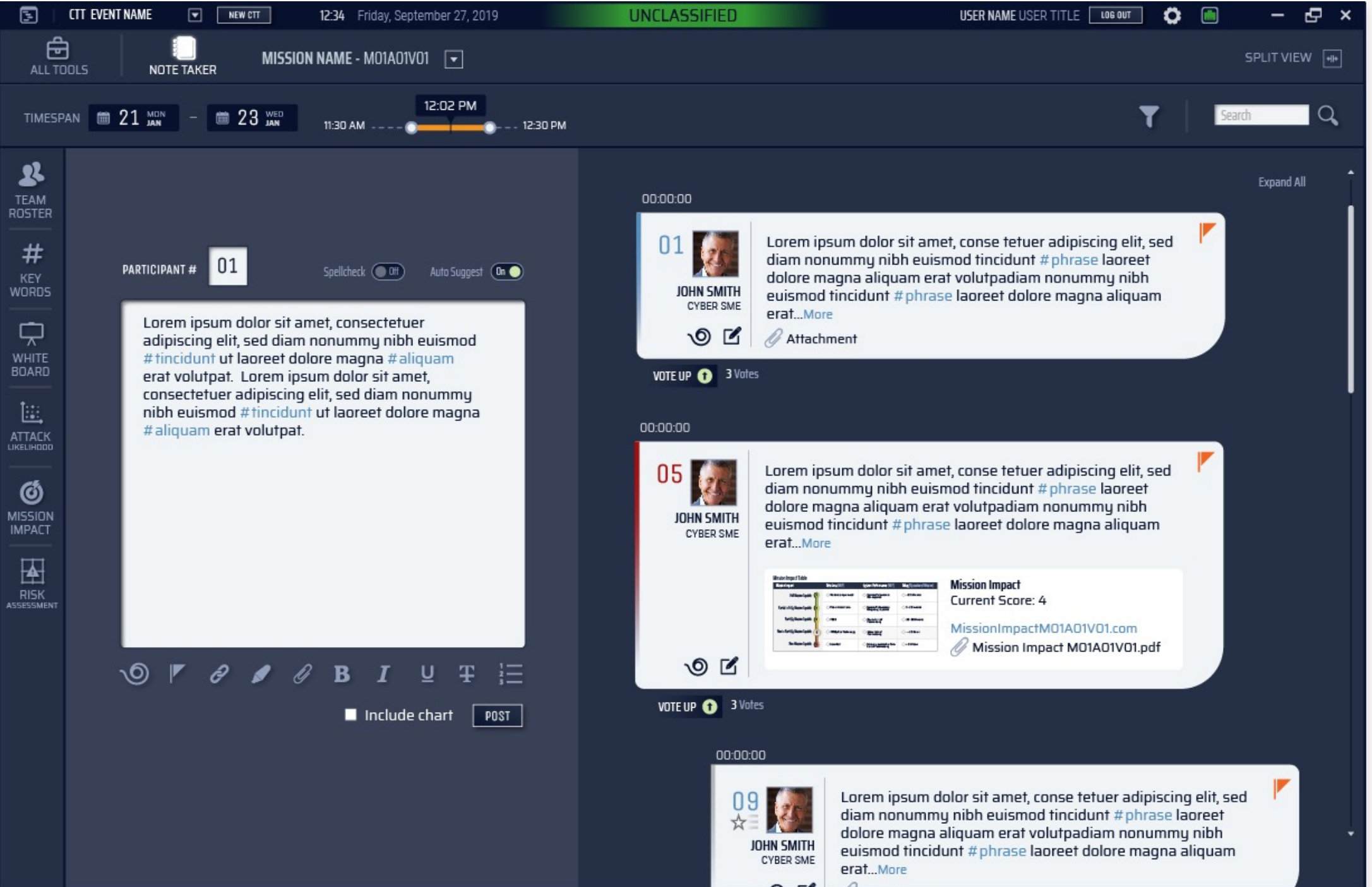
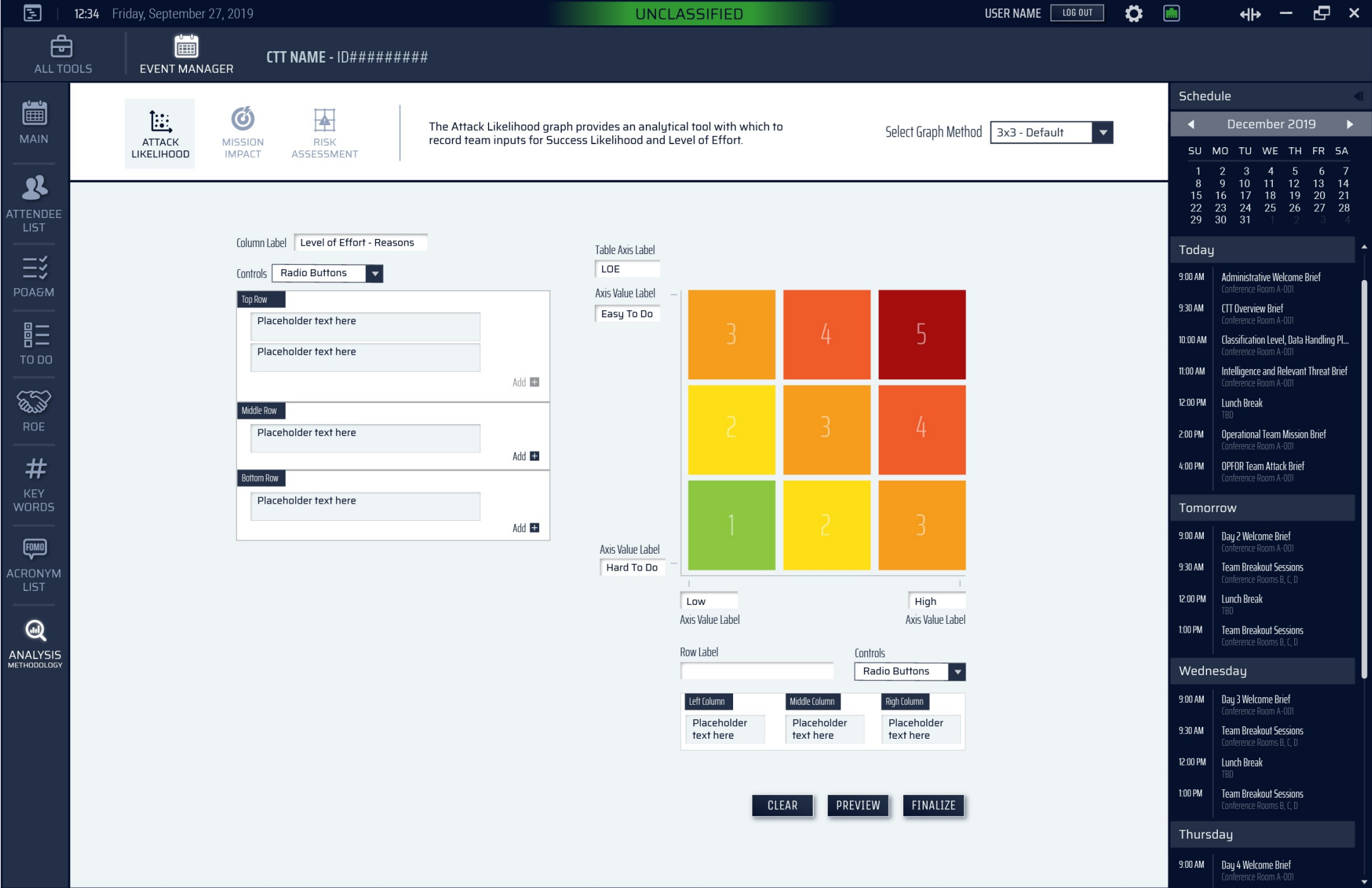
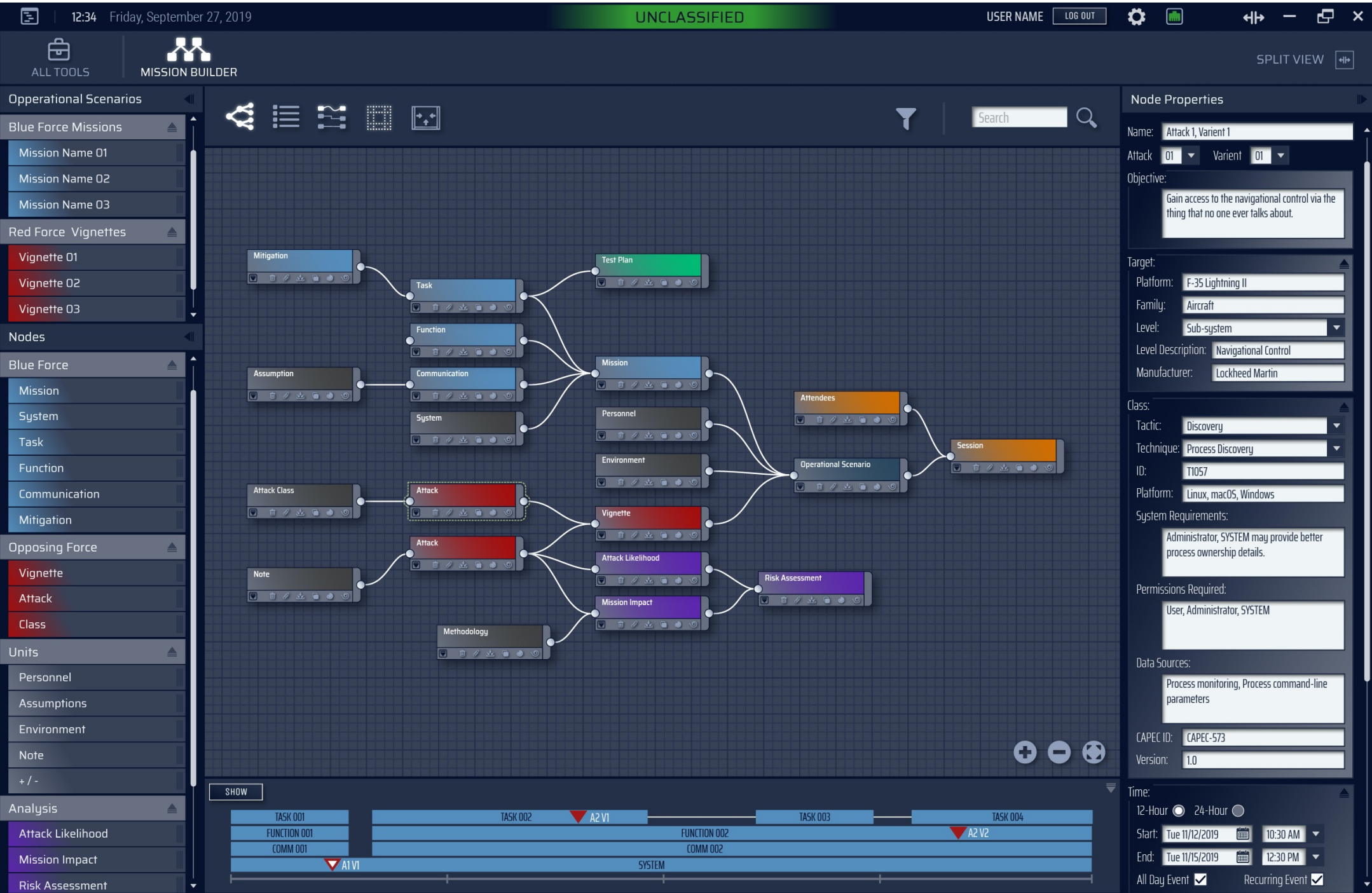
BLUVECTOR



BLUVECTOR

The BluVector Sensor is a high-performance, network-based cyber intelligence platform that utilizes machine learning methodologies and a variety of advanced analysis modules for detecting malware across enterprise gateway links. The sensor platform deploys to high-density network aggregation points for passively ingesting tapped network traffic. The sensor seamlessly integrates with threat intelligence feeds for real-time correlation, dynamic analysis engines for offload sandbox execution, and Security Information and Event Management (SIEM) tools for rapid incident response.

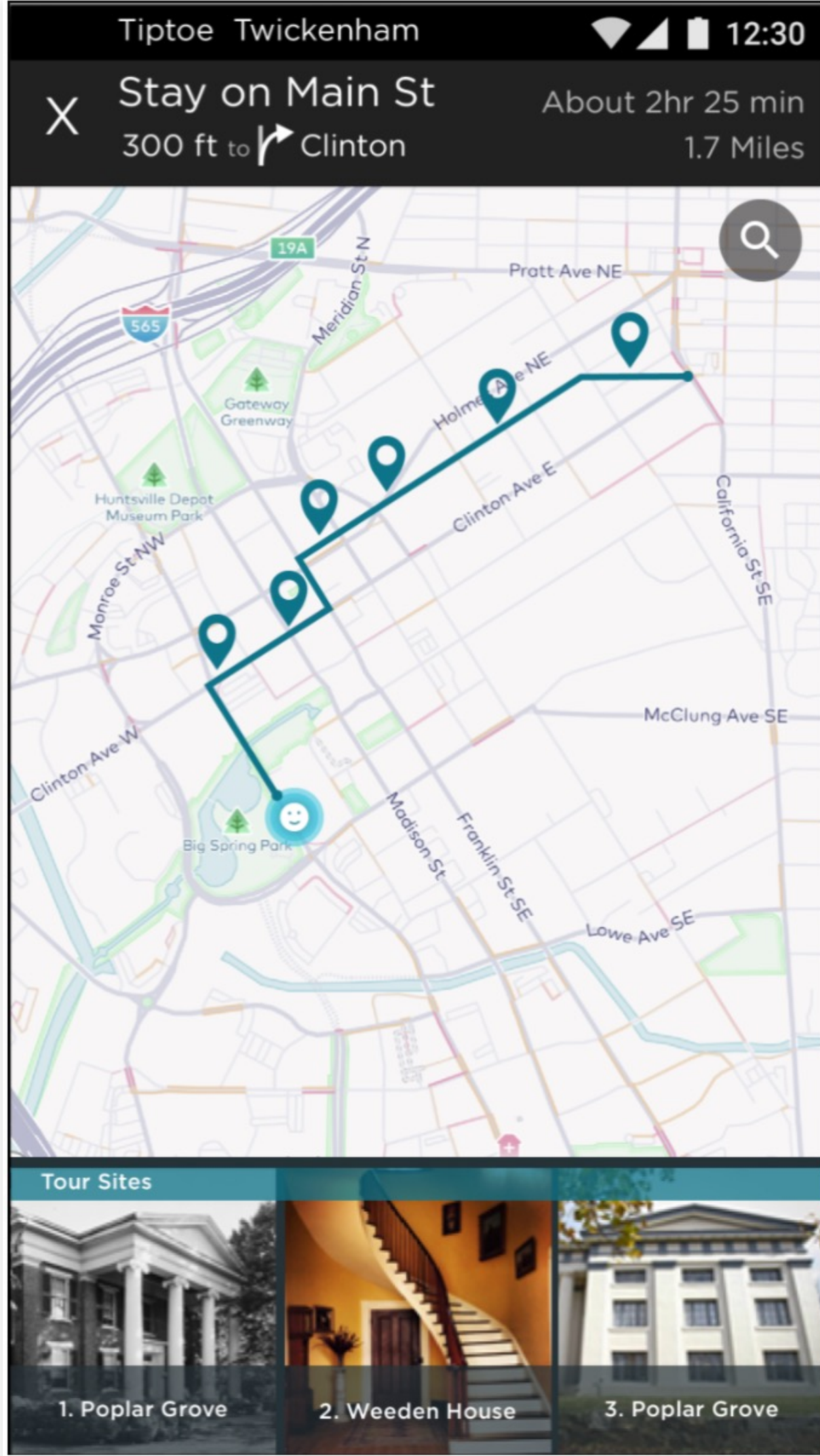
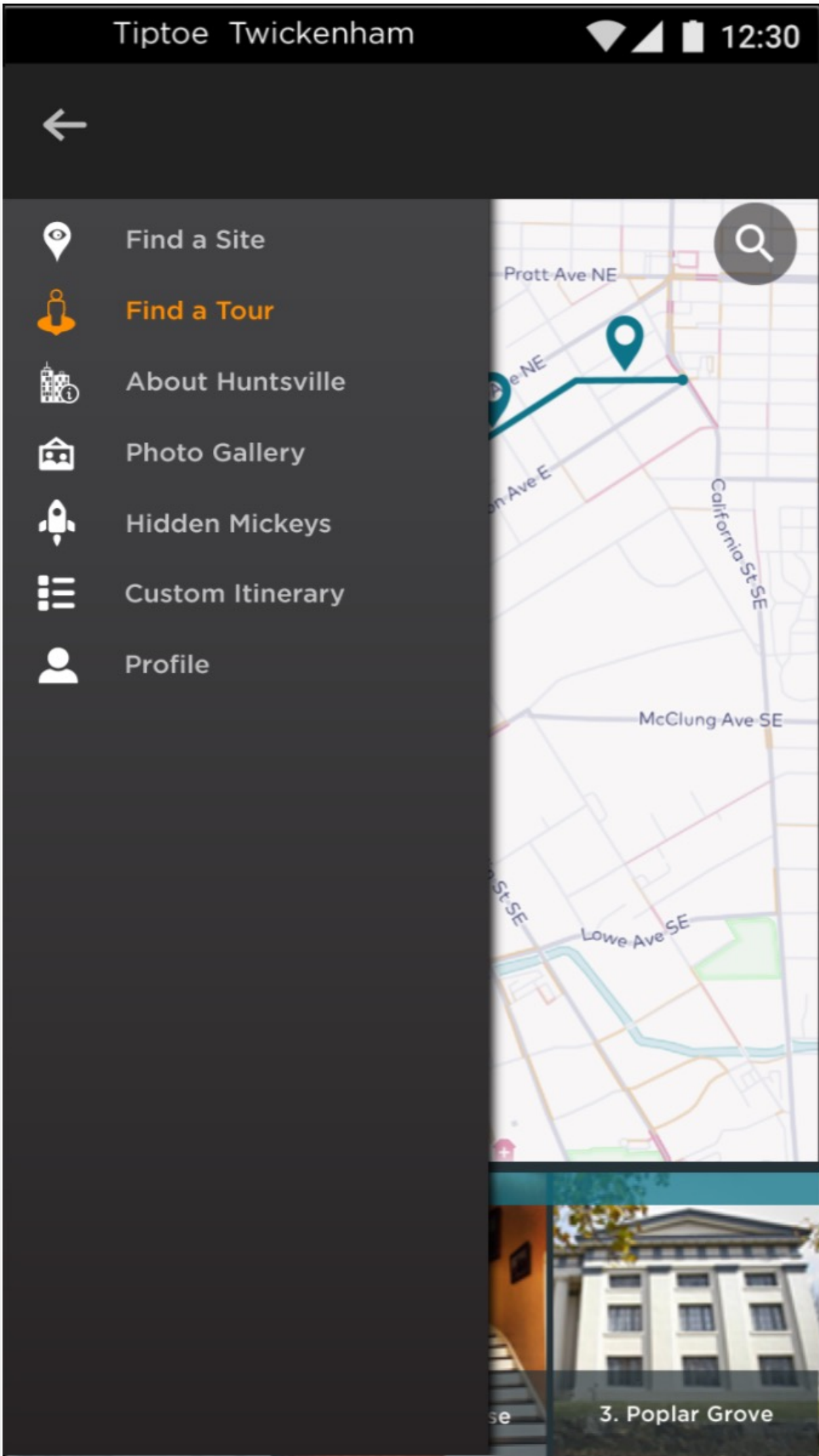
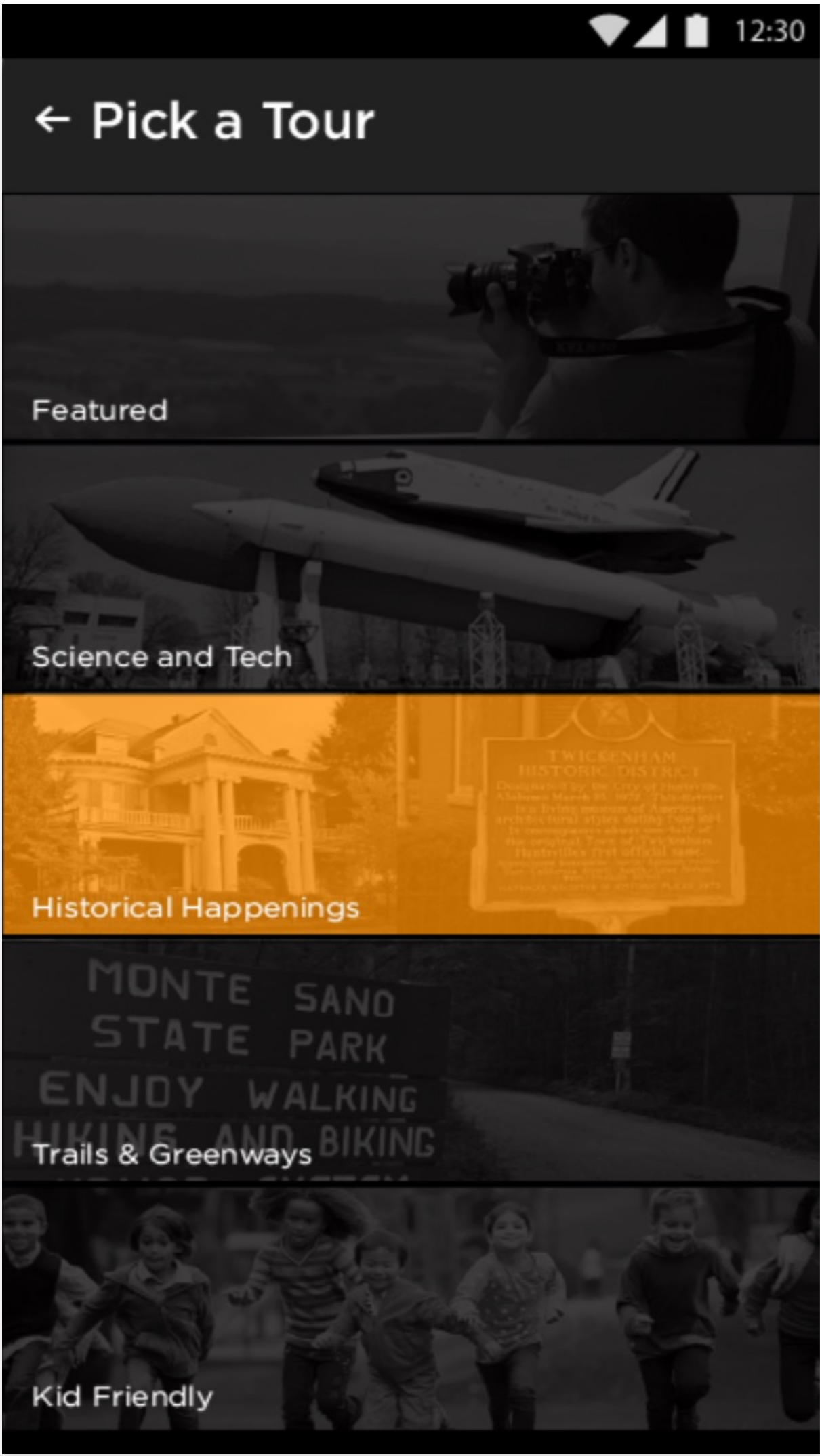
NEXUS



nexus

Nexus Cyber Table Top (CTT) Tool enables the acquisition and engineering communities to define and execute CTT exercises while leveraging the strengths of automation and machine learning to bring clarity to cyber vulnerability and risk analysis. Developed with a user-centered emphasis and directed by the processes detailed in the Department of Defense Cybersecurity T&E Guidebook, Nexus standardizes the execution of CTT events and the evaluation of mission critical systems, enabling cybersecurity and domain experts to increase the quality and throughput of investigative recommendations, and providing decision-makers with timely and actionable information.

EXPEDITION HUNTSVILLE



A pocket tour-guide for the Huntsville newcomer or tourist, Expedition Huntsville is a conceptual mobile application designed to help the user discover and navigate key areas of interest, historical information, and interesting happenings in and around the city of Huntsville, AL.

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