

ADOPTING NEW DESIGN INTO LEGACY PRODUCTS



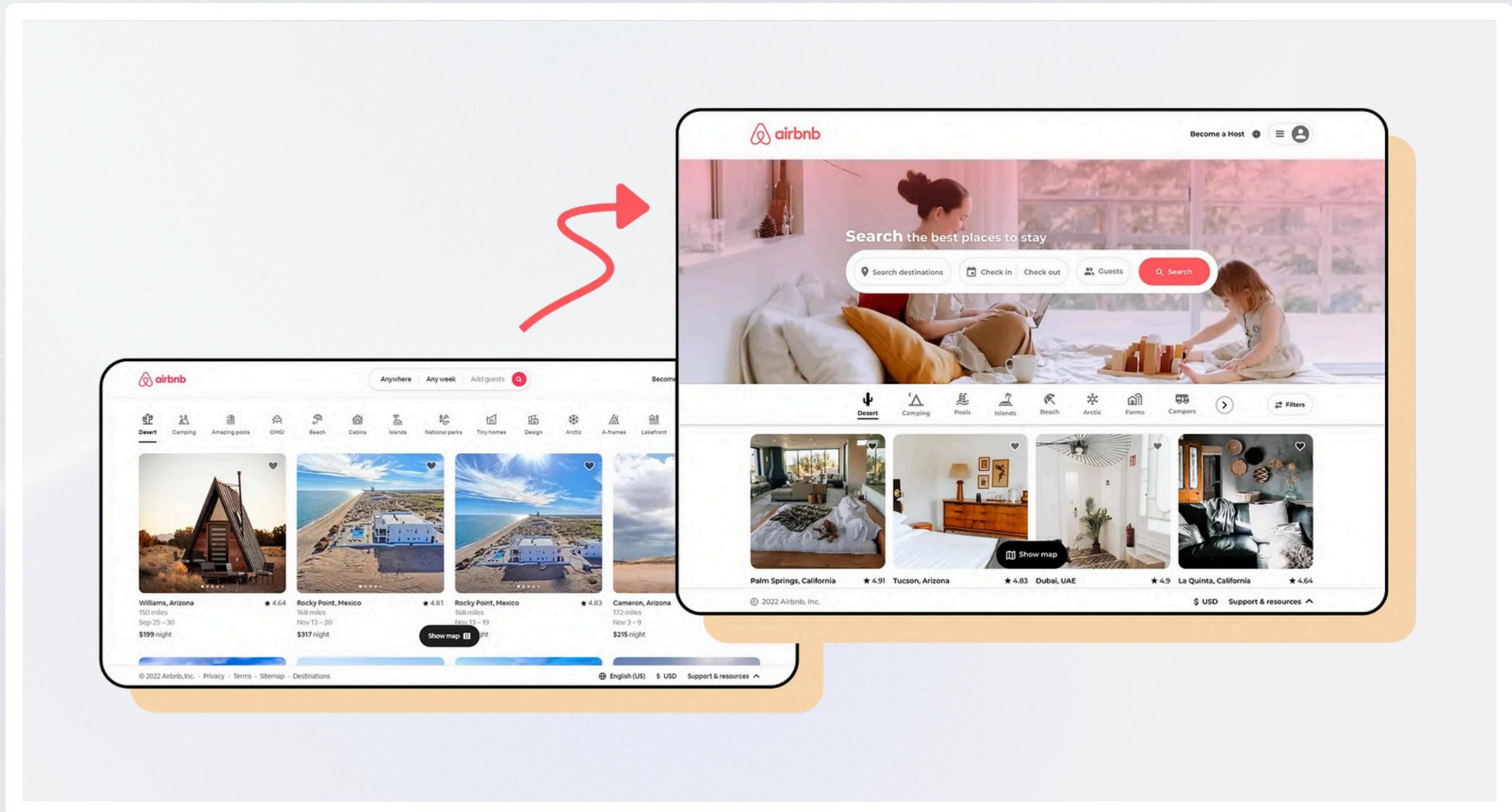
Cheryl Leung
Director of Engineering, Core



WHY IS ADOPTING NEW DESIGN IMPORTANT?

IMPROVING USER EXPERIENCE & ENGAGEMENT

- Outdated designs create friction, leading to user frustration and drop-offs.
- Better usability reduces cognitive load, making tasks faster and easier



**AIRBNB'S
REDESIGN (2014)**
Created higher user
engagement and a 30%
increase in bookings.

KEEPING UP WITH EVOLVING USER EXPECTATIONS & TRENDS

- With the rise of short-form media, it became increasingly critical to keep up with other apps of trends in consuming media.



INFINITE SCROLLING ALGORITHMIC FEED

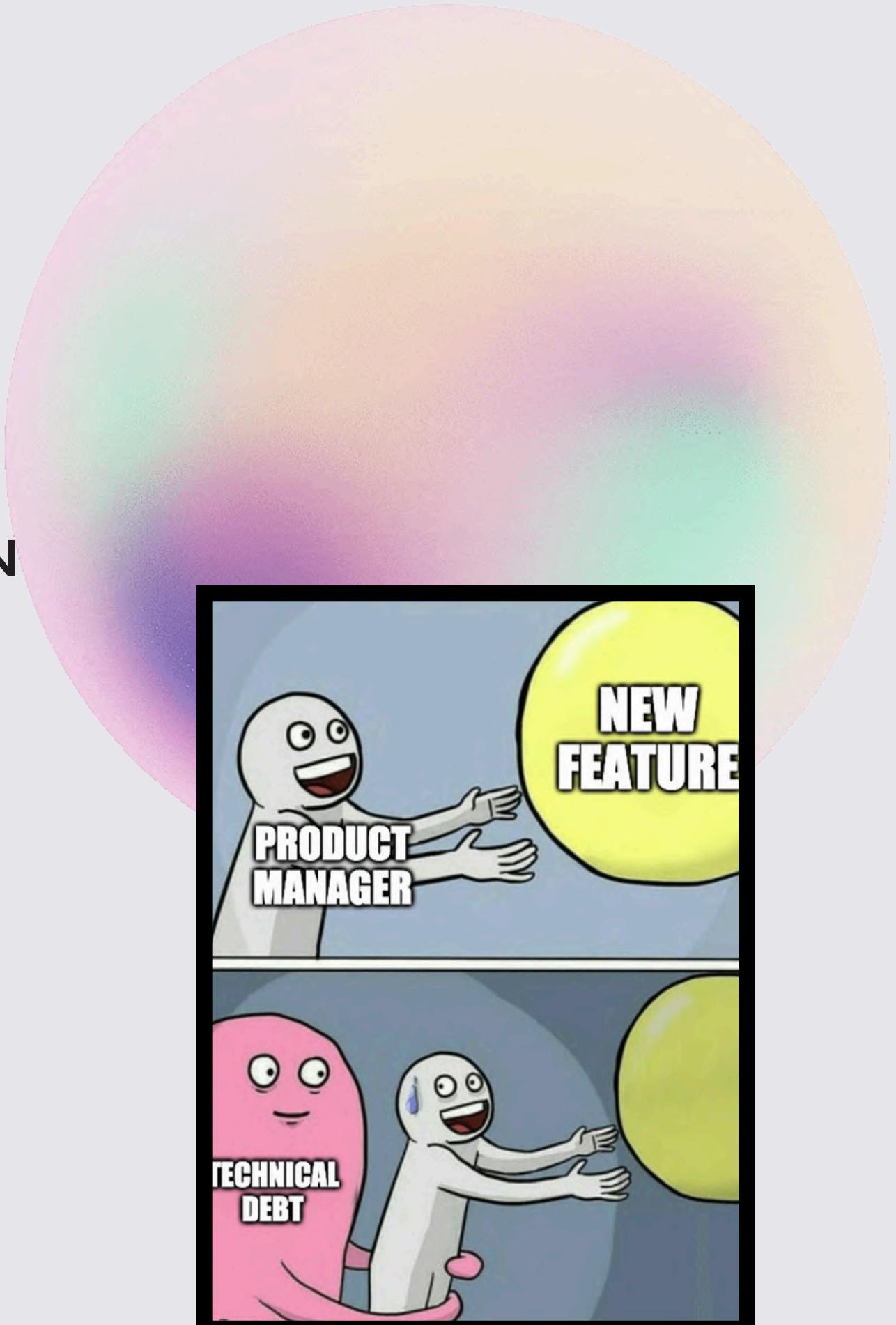
The infinite scroll became an increasingly popular trend in apps that equates to higher engagement

(but shorter attention spans).

BOOSTING PERFORMANCE, DEVELOPMENT TIME & REDUCING TECHNICAL DEBT

COMPANIES THAT INVEST IN DESIGN SYSTEMS AND FRONT-END MODERNIZATION SEE A 40-60% REDUCTION IN DESIGN AND DEVELOPMENT TIME - (MCKINSEY)

- Old design / code = spaghetti code, making it hard to scale, maintain, or improve.
- Modernizing UI reduces complexity.
- Performance optimization (lighter assets, better animations, accessibility) leads to faster load times



INCREASING REVENUE & CUSTOMER RETENTION



A FRICTIONLESS, INTUITIVE UI INCREASES SALES CONVERSIONS AND USER RETENTION

Poor design leads to abandonment, directly impacting revenue.



1-CLICK CHECKOUT

Amazon's introduction of the 1-Click Checkout was revolutionary at removing friction and increasing revenue.



Buy now with 1-Click®

WE'VE ESTABLISHED WHY IT'S IMPORTANT -
SO,

WHY IS IT SO DIFFICULT?



IT'S A TECHNICAL,
ORGANIZATIONAL
AND CULTURAL
CHALLENGE.

WHY IS IT SO DIFFICULT?



NO CLEAR OWNERSHIP OR ALIGNMENT

- Developers, design and product all have different priorities, and a re-design could get de-prioritized if there weren't champions to bring these teams together

BUSINESS PRESSURE

- Doesn't immediately show ROI
- Requires significant time and resources

RESISTANCE TO CHANGE

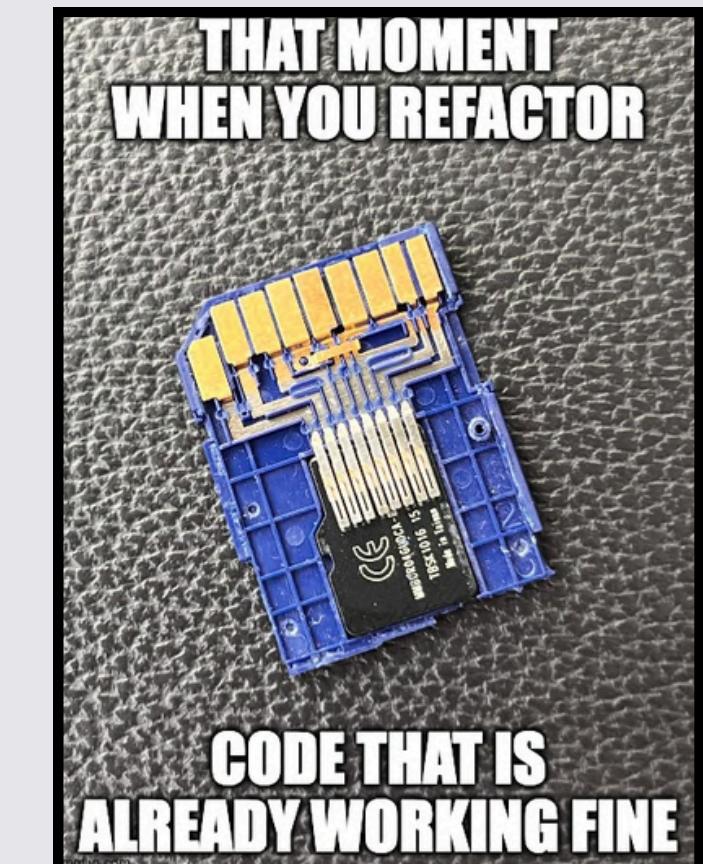
- Might not always have buy-in from engineers or product team as their priorities might not prioritize this
- Users could hate changes that are too jarring or drastic

TECHNICAL DEBT

- Legacy products often have old, fragile code and updating UI can expose dependancies or require major refactoring

A LOT OF EFFORT

- Requires a lot of effort of planning, multi-team resourcing and collaboration, alignment with stakeholders, time



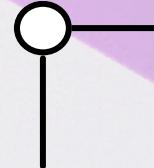


THE STRATEGY



THE STRATEGY

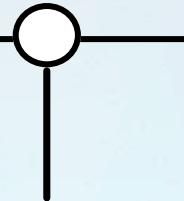
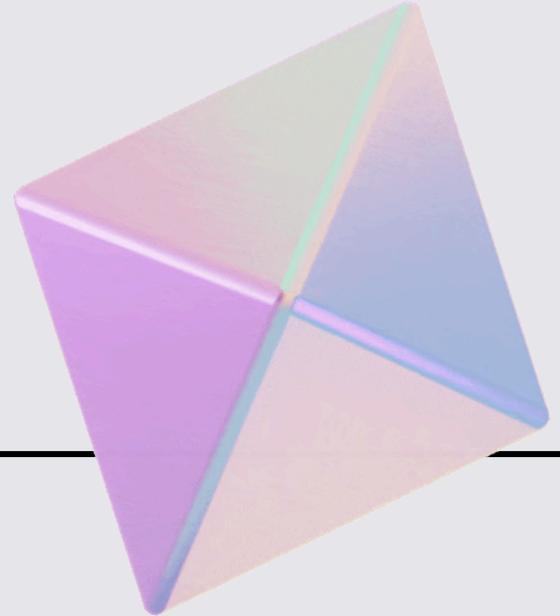
PREPARATION & ASSESSMENT



ASSESSING THE
CURRENT STATE OF THE
LEGACY UI

CHOOSING A MIGRATION
STRATEGY

PREPARATION & ASSESSMENT



ASSESSING THE
CURRENT STATE OF THE
LEGACY UI

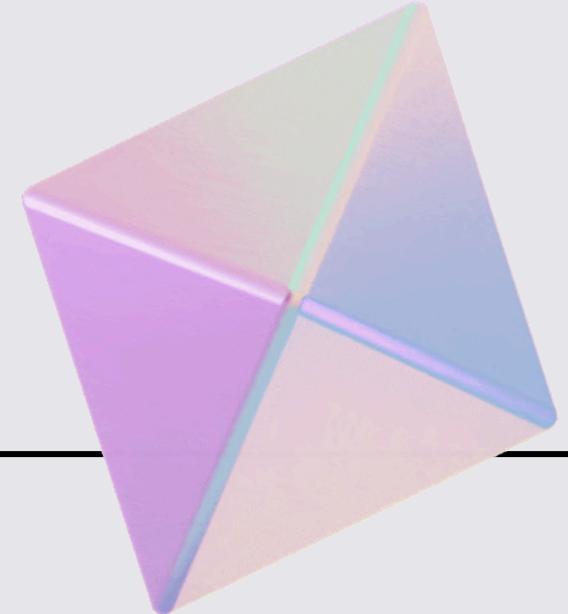
ANALYZE EXISTING TECH STACK

- Front-end Tech Stack
- CSS & Styling
- Componentization
- State Management
- API & Backend Dependencies

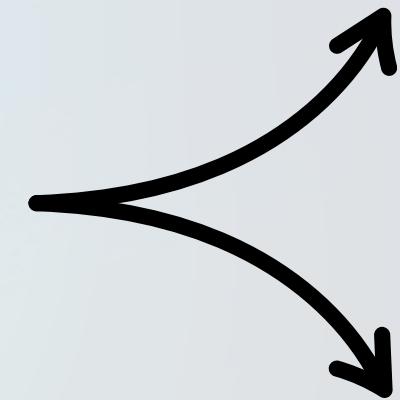
REVIEW AUDIT WITH STAKEHOLDERS

- Share the findings to align with stakeholders on the scope and roadmap capacities to take on this re-design

PREPARATION & ASSESSMENT



CHOOSING A MIGRATION
STRATEGY



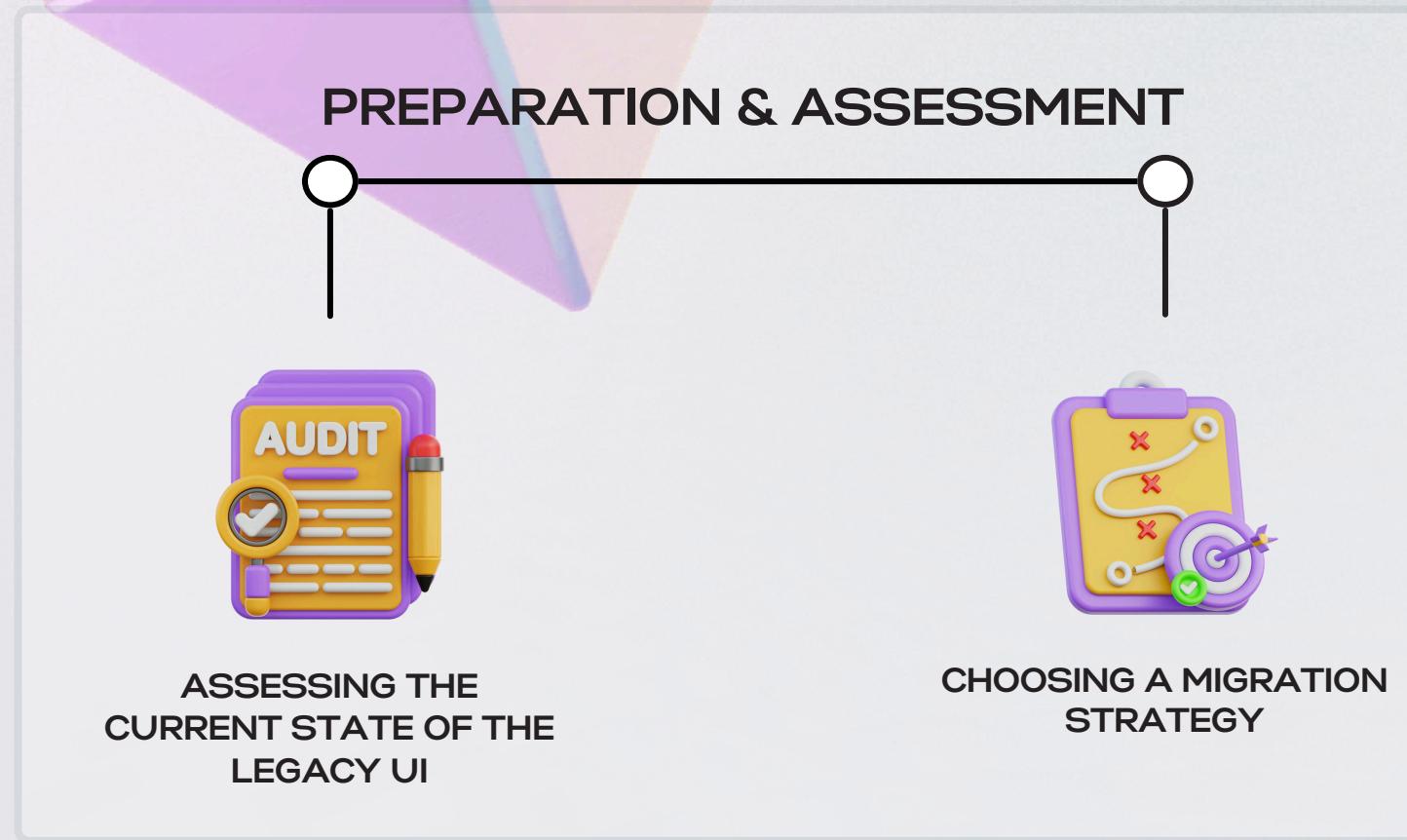
(A) INCREMENTAL ADOPTION

- Introduce the new design system component-by-component while keeping the old UI functional.
- Use feature flags to control which users see the new UI.

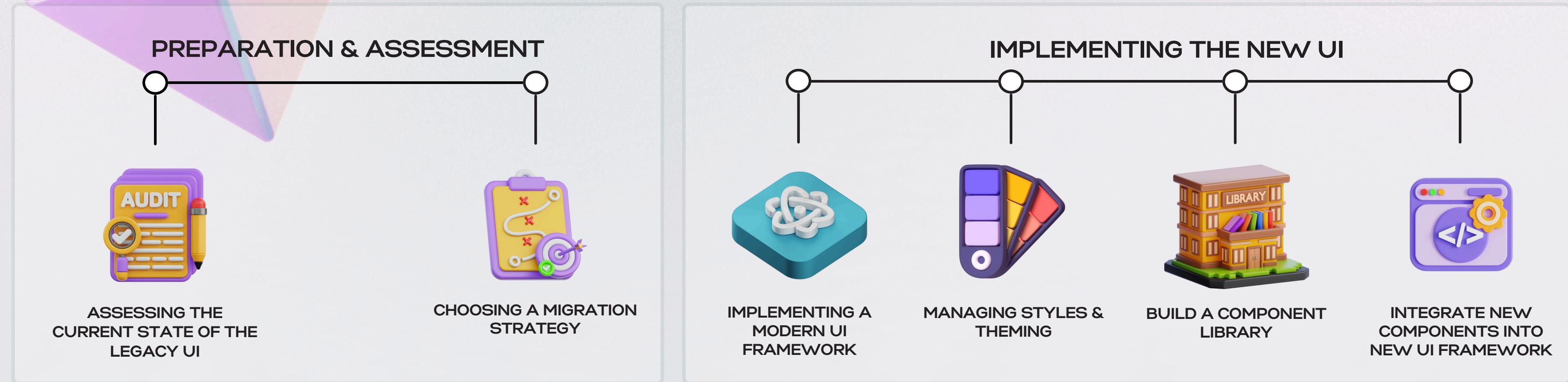
(B) FULL REWRITE (HIGH RISK)

- Completely rebuild the UI from scratch, replacing the old frontend.

THE STRATEGY

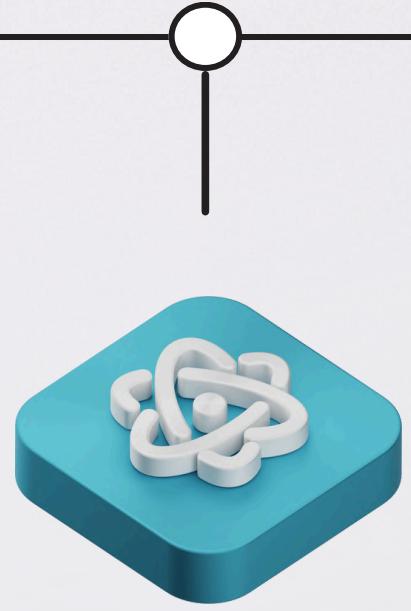


THE STRATEGY





IMPLEMENTING THE NEW UI



IMPLEMENTING A
MODERN UI
FRAMEWORK

MIGRATE TO A MODERN UI FRAMEWORK (IF NEEDED)

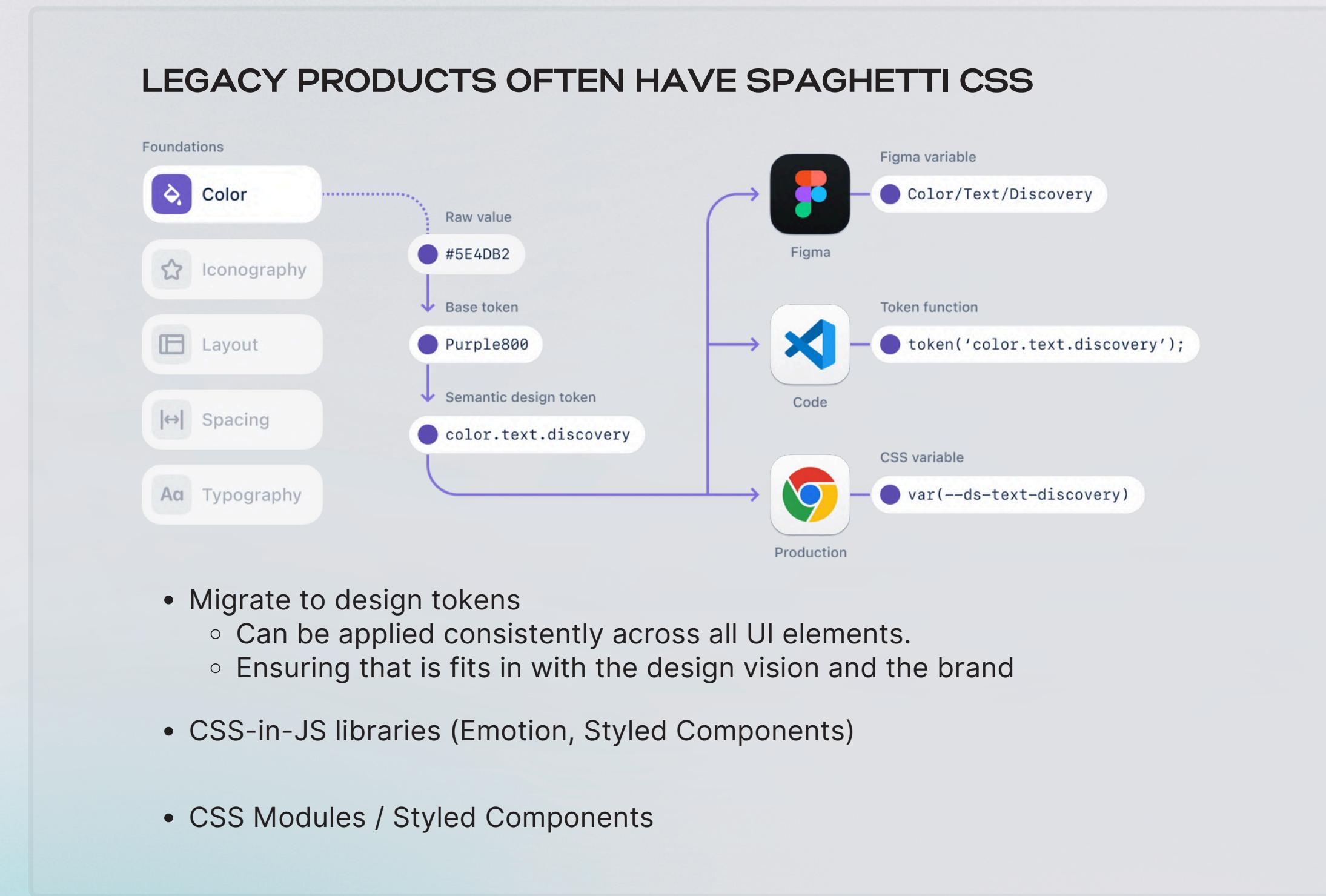
- Adopt to a modern framework React, Vue, or Angular to adopt reusable components



IMPLEMENTING THE NEW UI



MANAGING STYLES & THEMING





IMPLEMENTING THE NEW UI



BUILD A COMPONENT LIBRARY

CREATE A COMPONENT LIBRARY

- Align with the design vision + tokens

Carbon Design System

Carbon is IBM's **open source** design system for products and digital experiences. With the IBM Design Language as its foundation, the system consists of working code, design tools and resources, human interface guidelines, and a vibrant community of contributors.



LEVERAGE TOOLS

- Storybook "first" approach

Button

Primary UI component for user interaction

Name	Description	Default	Control
primary	Is this the principle call to action on this page?	false	False True
label*	The button label.	string	Button
backgroundColor	For custom buttons	string	Choose color...
size	How large should the button be?	medium	small medium large
onClick	Optional click handler	(() => void)	-

STORIES

Primary

Secondary



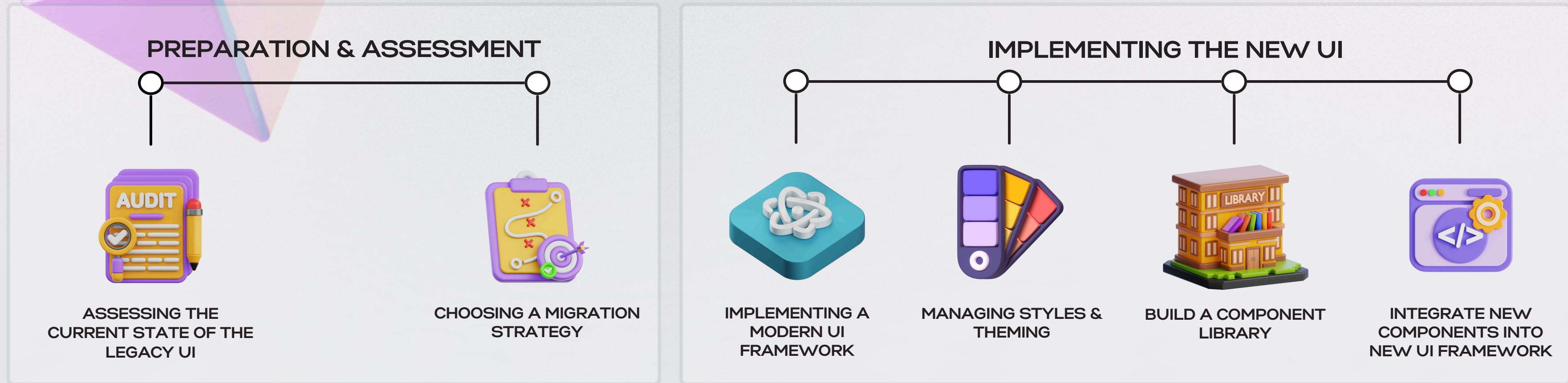
IMPLEMENTING THE NEW UI



INTEGRATE NEW
COMPONENTS INTO
NEW UI FRAMEWORK

- Implement components into the ui and ensure they works consistently across the platform
- Use **micro-frontends** (e.g., Webpack Module Federation) if you need to mix old and new UIs

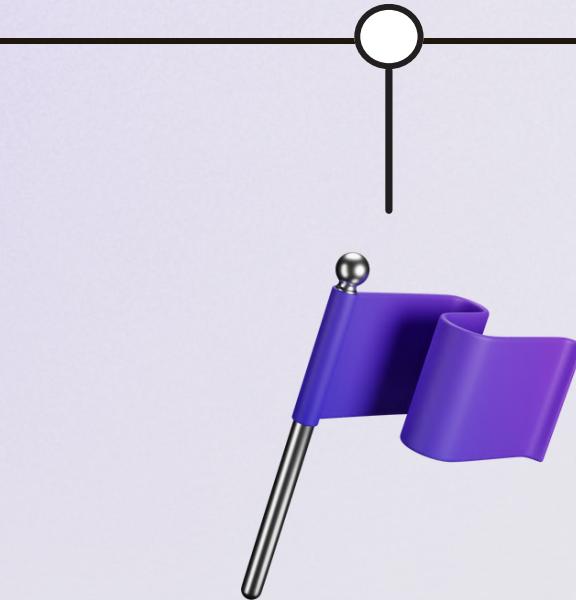
THE STRATEGY



THE STRATEGY



DEPLOYMENT & OPTIMIZATION

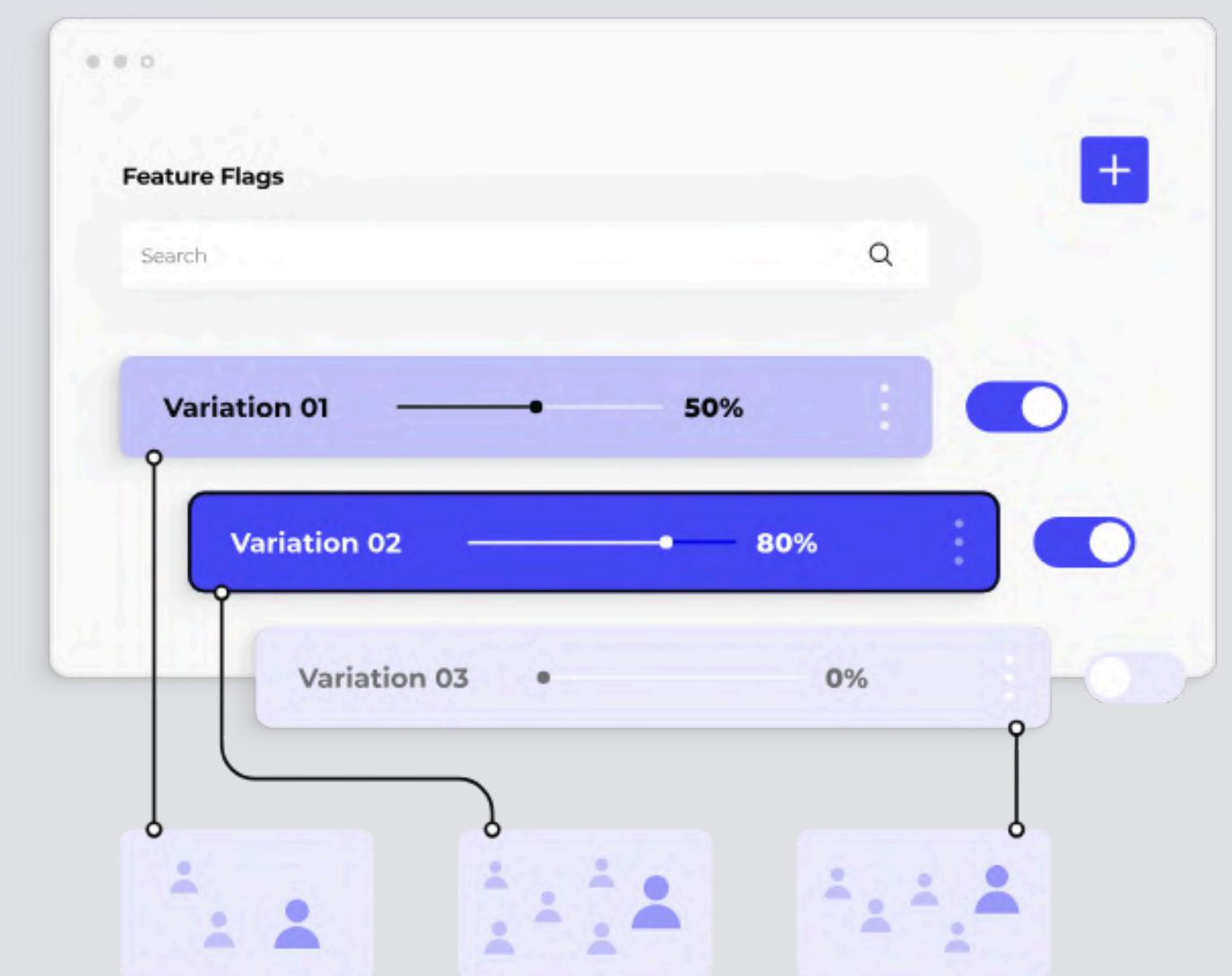


LEVERAGING FEATURE FLAGS FOR SAFE ROLLOUTS

ENABLE CONTROLLED ROLLOUTS
OF NEW UI COMPONENTS
WITHOUT BREAKING THE ENTIRE
SYSTEM.

- Roll out to internal users first, then small percentages of customers before a full release.
- Allow rollback in case of unexpected issues.

RUN A/B TESTING
TO GAIN USER
FEEDBACK



DEPLOYMENT & OPTIMIZATION



ENSURING PERFORMANCE &
ACCESSIBILITY

PERFORMANCE CONSIDERATIONS:

- Optimize images and assets
- Reduce JavaScript bundle size
- Use server-side rendering (SSR) or static site generation (SSG) for faster page loads.

ACCESSIBILITY CONSIDERATIONS:

- Follow WCAG guidelines
- Use semantic HTML to improve usability.
- Test with tools to pass accessibility

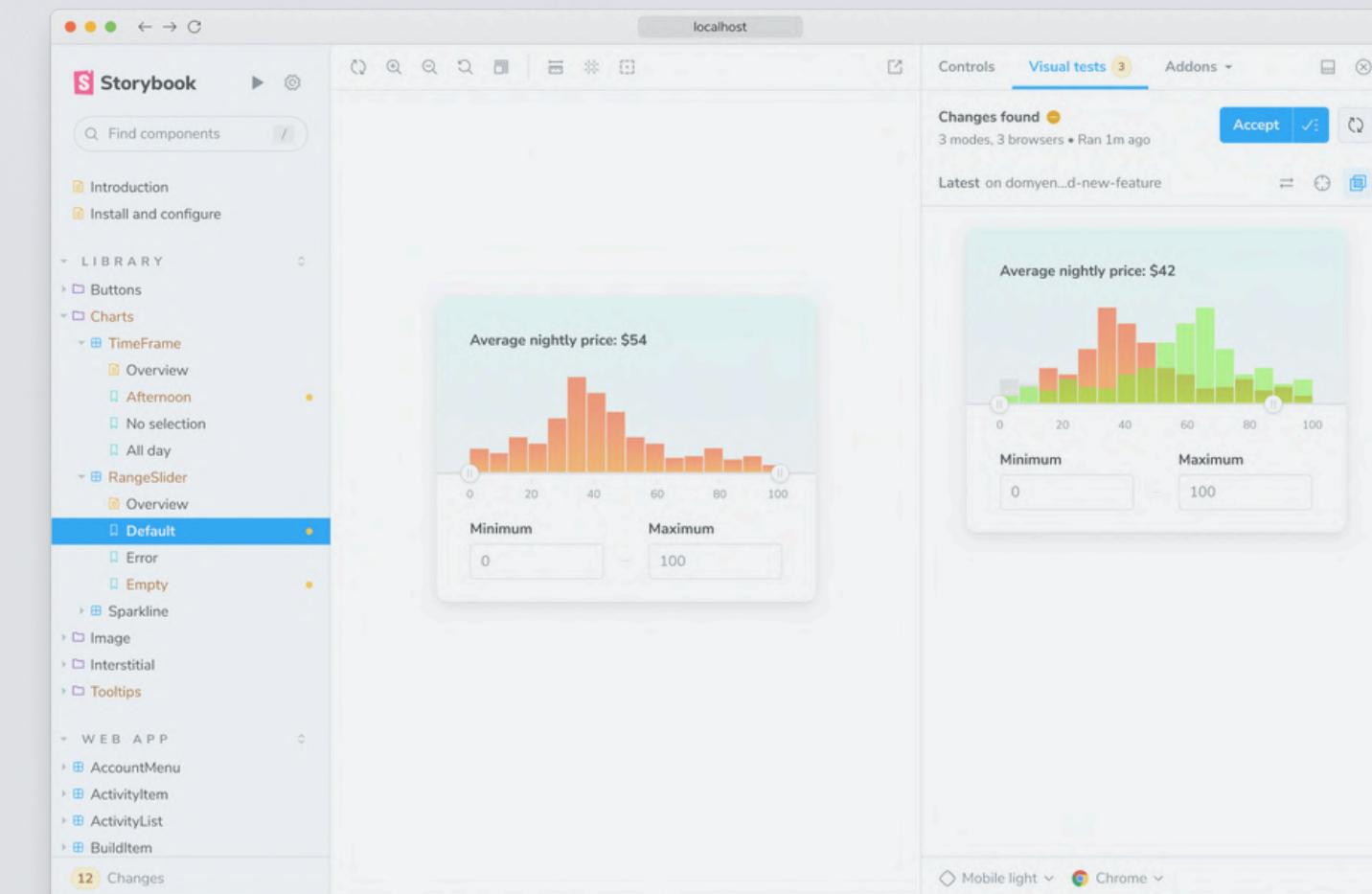
DEPLOYMENT & OPTIMIZATION



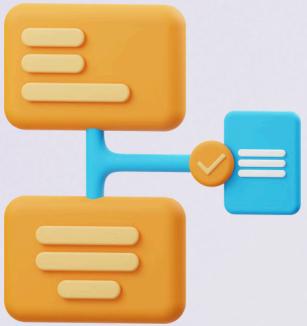
TESTING & DEPLOYMENT STRATEGY

AUTOMATED TESTING

- Unit Testing
- Integration Testing
- Visual Regression Testing



DEPLOYMENT & OPTIMIZATION



MIGRATING USER FLOWS
WITHOUT DISRUPTING UX

MAINTAIN INTUITIVE USER FLOWS TO AVOID CONFUSION

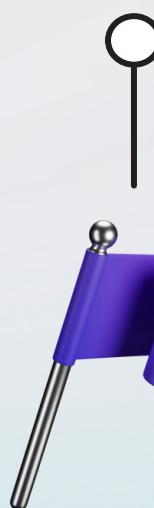
- Provide tooltips or onboarding when introducing major UI changes.
- Gather user feedback through usability testing before full deployment.

THE STRATEGY

PREPARATION



ASSESSING THE
CURRENT STATE OF THE
LEGACY UI



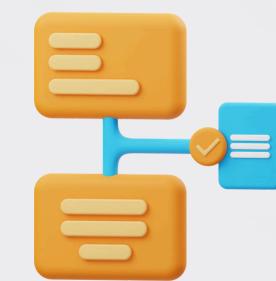
LEVERAGING FEATURE FLAGS FOR
SAFE ROLLOUTS



DESIGN / UI



INTEGRATE NEW
COMPONENTS INTO
NEW UI FRAMEWORK



ENSURING PERFORMANCE &
ACCESSIBILITY

TESTING & DEPLOYMENT
STRATEGY

MIGRATING USER FLOWS
WITHOUT DISRUPTING UX



BEYOND THE RE-DESIGN...

DESIGN SYSTEMS

MAINTAINING THE DESIGN SYSTEM



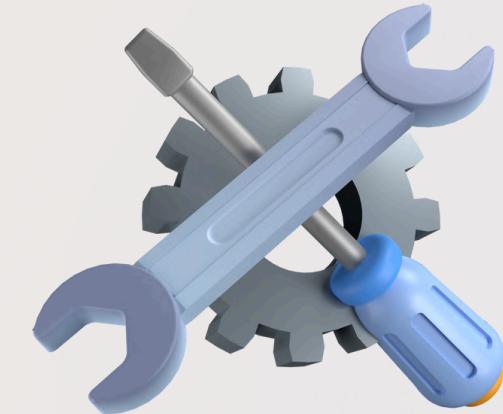
DESIGN SYSTEMS

MAINTAINING BEYOND THE RE-DESIGN



ADOPTION & GOVERNANCE

- OWNERSHIP
- MONITOR ADOPTION
- DOCUMENTATION & EDUCATION
- GOVERNANCE & DECISION-MAKING



TECHNICAL MAINTENANCE

- VERSIONING & DEPRECATION STRATEGY
- AUTOMATED TESTING
- PERFORMANCE OPTIMIZATION

DESIGN SYSTEMS

MAINTAINING BEYOND THE RE-DESIGN



CROSS-TEAM COLLABORATION & ALIGNMENT

- If developers & designers aren't aligned early on, the project can spiral into **miscommunication, wasted work** and **conflicting priorities**.
- Alignment between the design team and development team is **critical** for maintaining a design system because it ensures **consistency, efficiency, and long-term scalability**.

REQUIRES JOINT
OWNERSHIP

FASTER
DEVELOPMENT &
REDUCED RE-WORK

ENSURES MORE
COHESIVENESS FOR
USERS

LONG-TERM
SUCCESS

DESIGN SYSTEMS

MAINTAINING BEYOND THE RE-DESIGN



SCALING & FUTURE-PROOFING

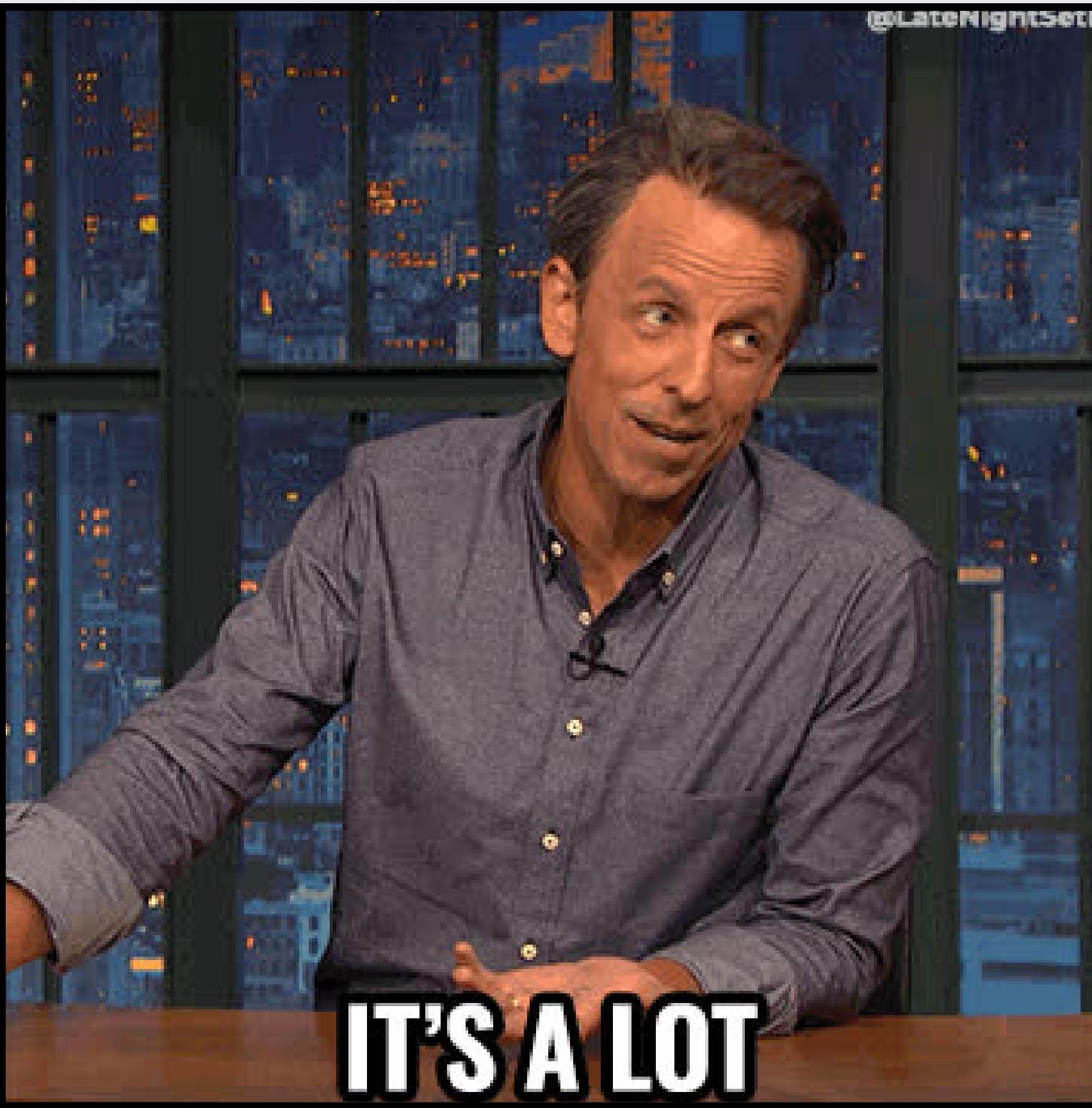
ADAPTING FOR
FUTURE CHANGE

USER FEEDBACK &
METRICS

ITERATION &
ENHANCEMENTS

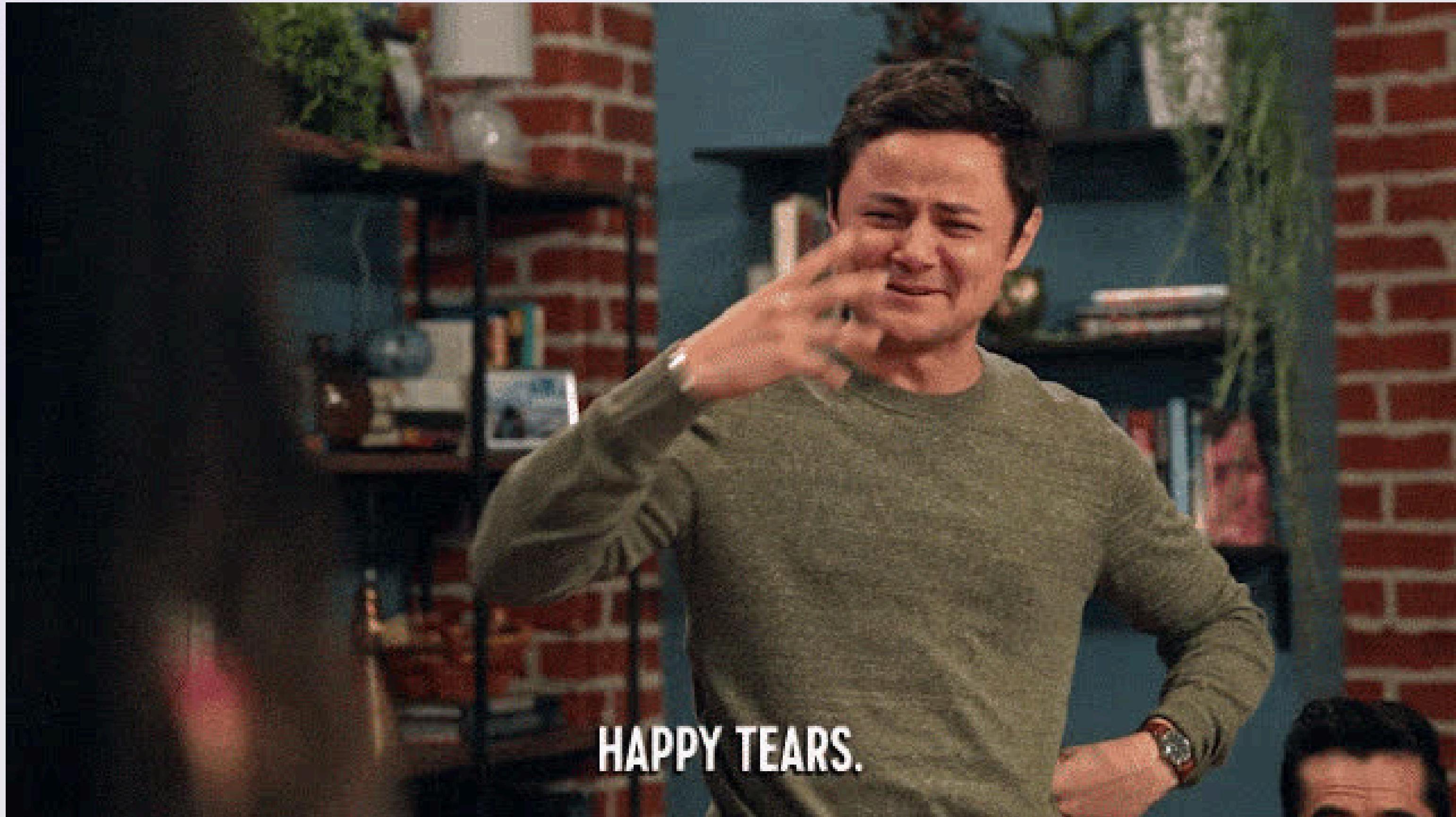


Treat the design system as a living product -
continue evolving it based on real-world
usage and feedback.





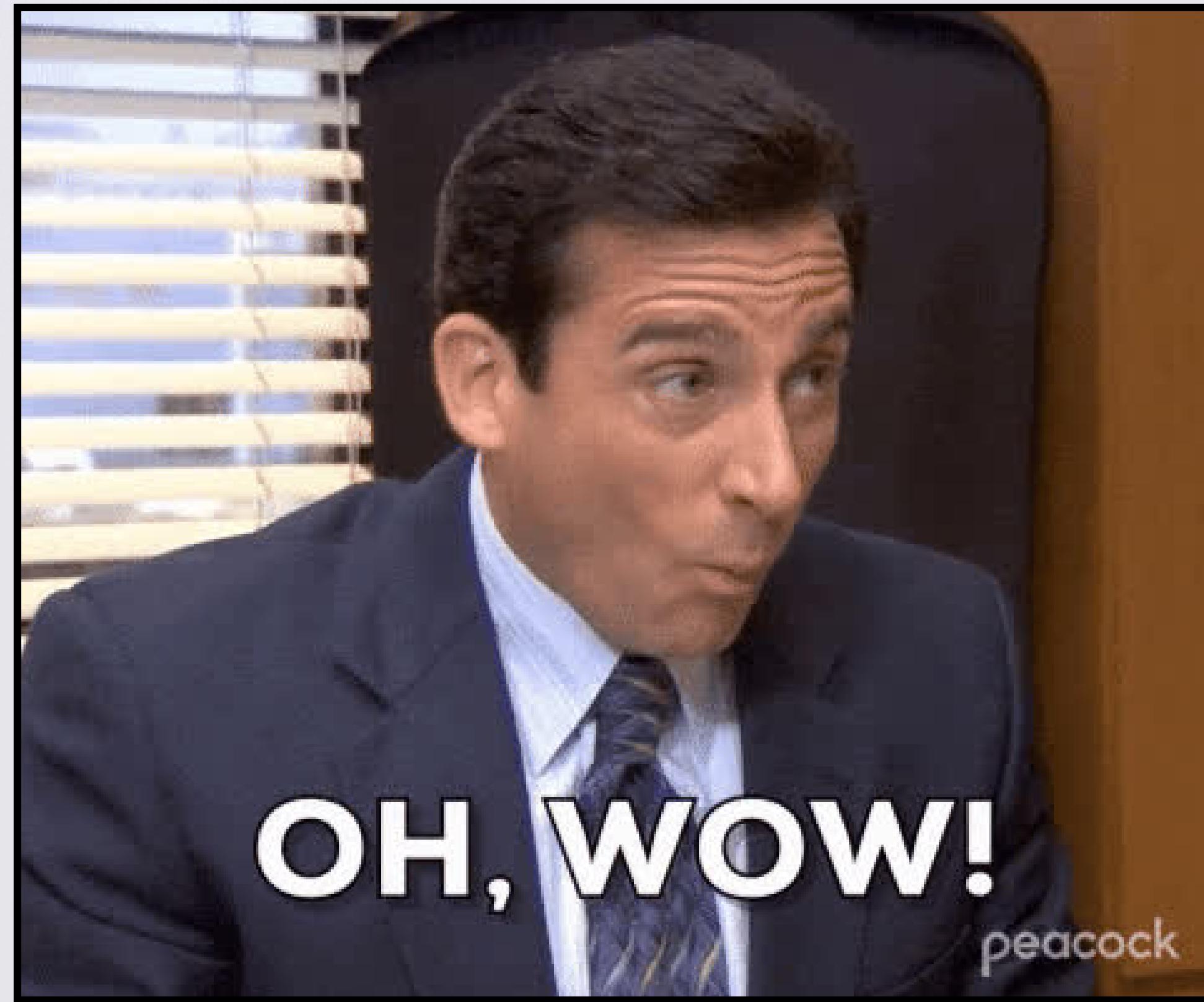




HAPPY TEARS.

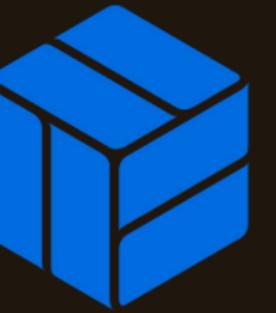


WHEN USERS SEE THE RE-DESIGN:



Thank
you!





COLAB

Come chat with us in our lounge area!

Draw on Friday for everyone that fills out an entry:



(1)
**AWS CERT. EXAM
VOUCHER**
(\$300 USD VALUE)

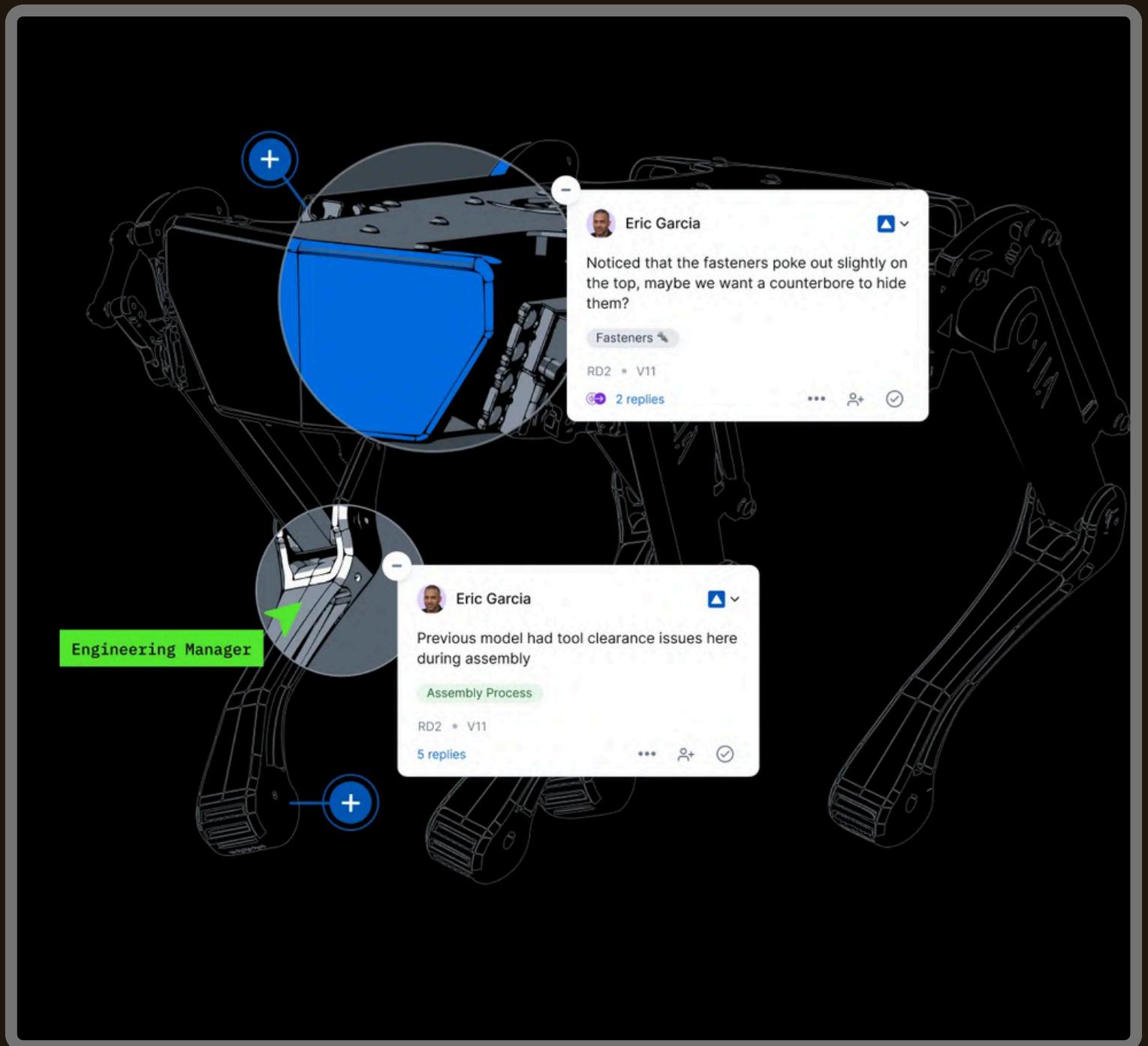


(3)
LEGO SETS

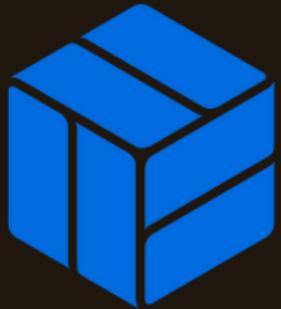


We're hiring!

colabsoftware.com/careers



- Post Series B, Canadian Company
- 100% Remote Friendly
- Unlimited PTO
- Strong team focus in people, culture and values
- Collaborate with extremely smart **and** kind people
- Build cool, innovative s***
- **Our company's mission:**
 - To build the future — faster, transforming the way mechanical engineers work together



COLAB

Come chat with us at our booth!



Cheryl Leung

