

YVONNE (YIWEN) HOU

# Design for Efficiency

ByteDance, Meta Enterprise Design ( MED )



Meta  
Enterprise Design

To comply with my non-disclosure agreement, some information has been omitted and obfuscated.  
Information shown is my own and does not reflect views of ByteDance.

## OVERVIEW

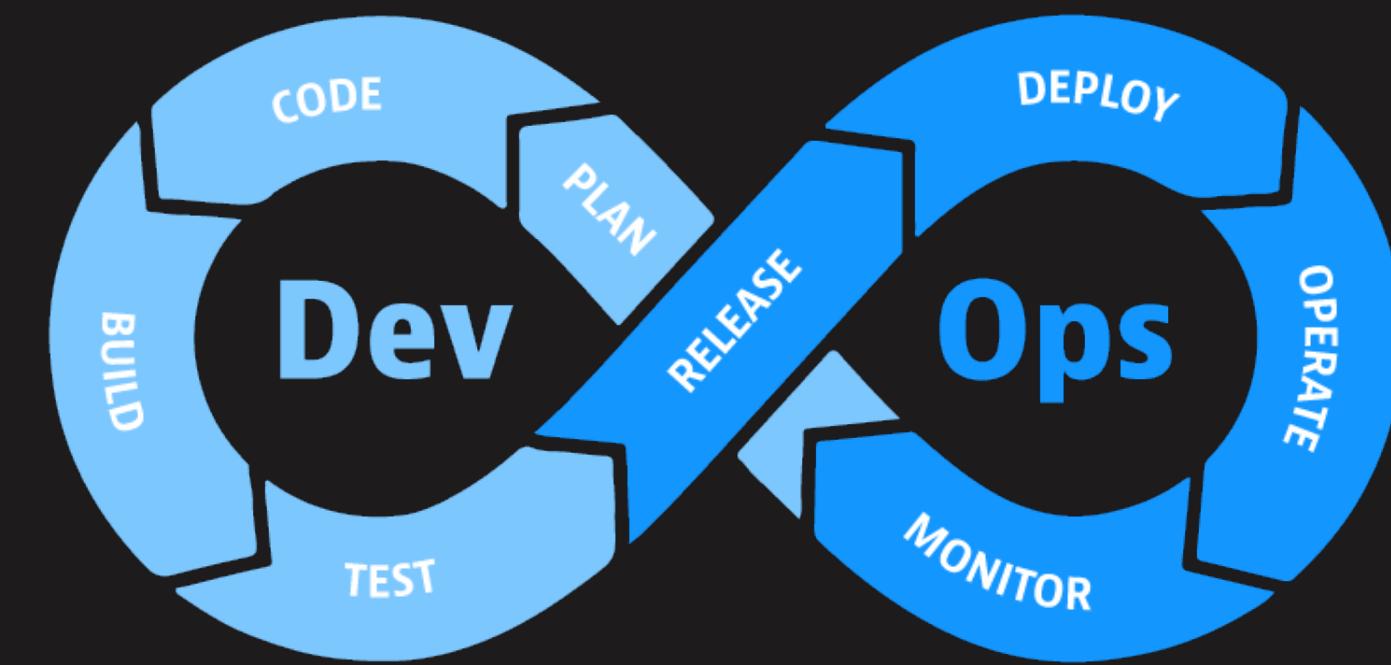
# Context

### What

Cony is an **internal DevOps platform** used by **technical users** on a day-to-day basis.

### Scope

Build upon the original Cony platform, I added a new computational resource monitoring module called Viper.



**Old Cony**

The Old Cony interface is a complex dashboard with multiple sections:

- AD-Engine**: Shows 18 members and 12 repos.
- MERGE REQUESTS**: Includes **All MRs**, **My MRs**, and **Pending Review**.
- TRACKINGS**: Includes **Roadmap** and **Metric**.
- SETTINGS**: Includes **Build Masters** and **Archives**.
- BRANCHES**: Lists branches like Aweme [1142:35292], AWEBizModel [84335:292], and AWEFeed [76801:1654].

**Viper**

The Viper interface is a simplified and integrated version of the Old Cony dashboard:

- Dashboard**: Sub-sections include **Agent List** and **Task**.
- Snapshot**
- Ironhide**: Sub-sections include **Agent List** and **Task**.
- Job**
- Pipeline**
- Template**
- Crontab**

A callout at the bottom left says "By default, expand side nav".

**Restructure & integrate  
new module Viper**

## OVERVIEW

# Context

### Role

As the **sole designer**, I collaborated with a cross-functional team throughout the product life cycle from co-defining PRD to Design QA.

### Goal

1. Seamless integration into the current platform
2. Increase efficiency

### Challenge

2-month time constraint

## OVERVIEW

# Final

The image displays a collage of screenshots from the Cony Viper mobile application, showcasing its various features and user interface elements:

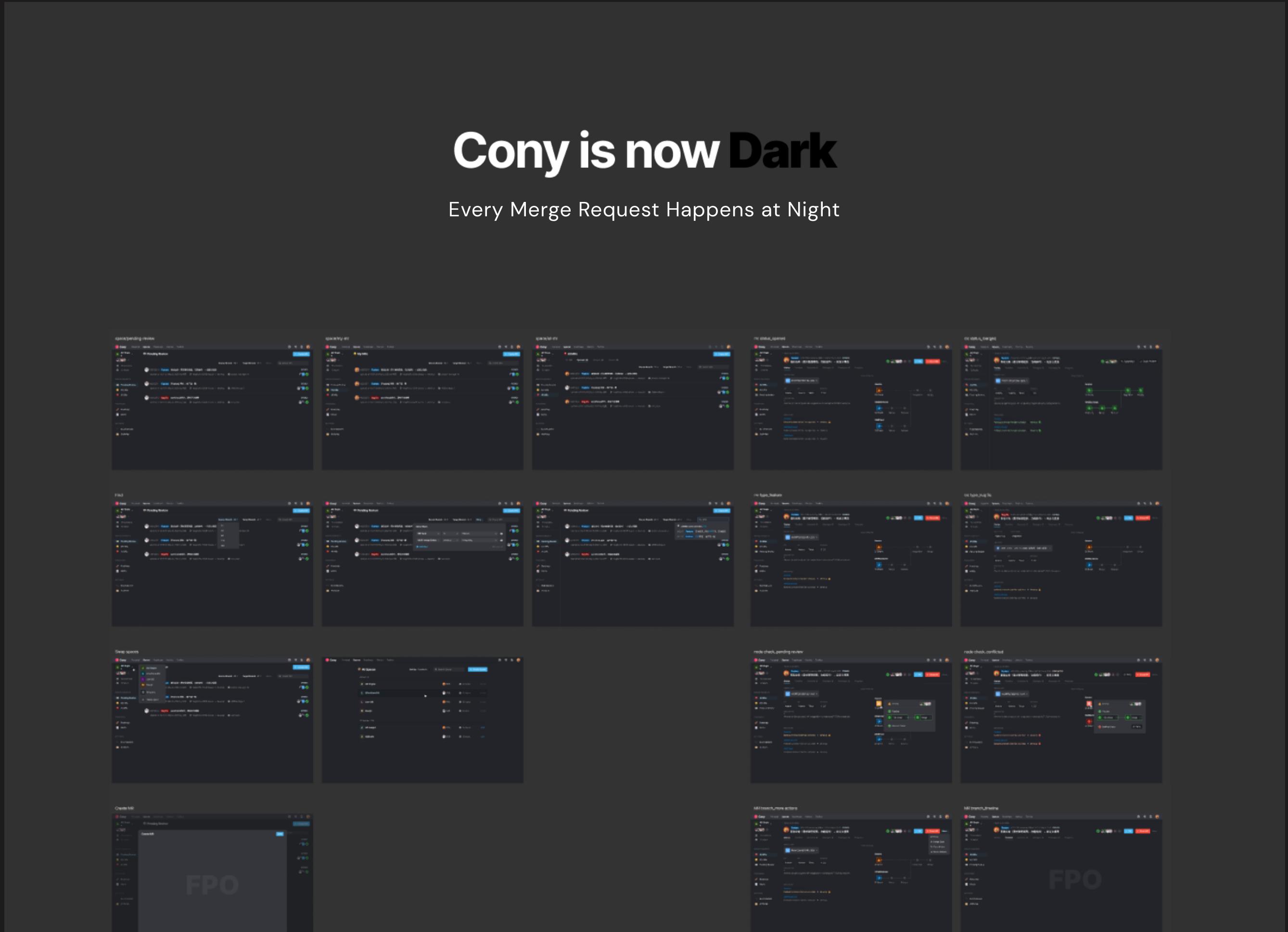
- Dashboard:** A circular "Current Number of Jobs" summary showing 1367 running and pending jobs. It includes a "Job Operation" chart with Running Job, Pending Job, and Max Supported metrics, and a "Resource Consumption" chart.
- Job Operations:** A detailed view of a job named "Business Line Aweme-iOS" with a status of "SUCCESS". It shows logs, task details, and execution timelines.
- Agent Monitoring:** A "Shell Detail Page" for "Shell-1" showing real-time metrics like Agent Memory, Agent Hard, and Agent CPU Load. It includes a timeline chart of "Average Execution Time" and a "Failure Rate".
- Template Management:** A "Create Template" screen for "Step1 Global Settings" and "Step2 Visual Configuration", allowing users to define global settings and visual configurations for templates.
- Virtual Network Computing:** A screenshot showing the "Virtual Network Computing" feature, which allows remote control mode via VNC.
- Agent Status:** A "Shell Detail Page" showing "Agent Condition" over time, with a legend for Normal, Unstable, Suspended, and Upgrading states.

## OVERVIEW

# Final

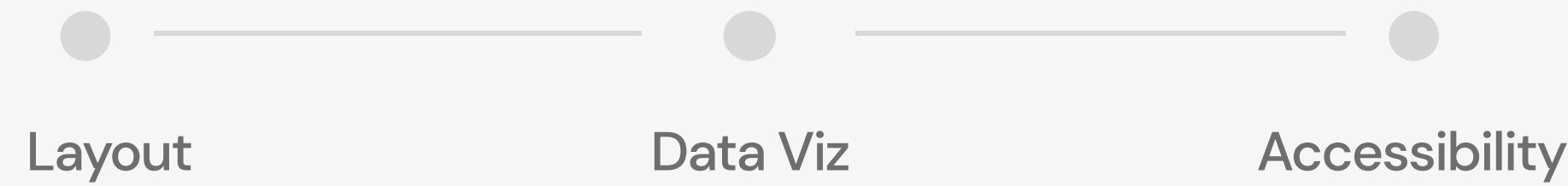
# Cony is now Dark

Every Merge Request Happens at Night



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# My Design Process



## DESIGN PROCESS

# Iterate towards better Layout

The screenshot shows a wireframe of a dashboard interface. At the top, there's a header with the Cony logo, navigation links (Home, Viper, Zhongkui, FirstLevel), and a user profile icon. Below the header is a sidebar with several sections: 'Viper' (selected), 'Dashboard', 'Snapshot' (selected), 'Ironhide' (Agent List, Task), 'Job', 'Pipeline', 'Template', and 'Crontab'. The main content area is titled 'Snapshot' and shows a grid of cards. Each card has a title ('Title') and a progress bar. Above the cards, there are filters: 'Business Line' set to 'TikTok', and checkboxes for 'Timeout Jobs' and 'My Jobs Only'. A search bar at the top right shows the query 'QA' with results: 'All job names contain QA', 'job name Delegate QA task - monetizationTR...', and 'job name QA - Client end MVP'. At the bottom of the page, there's a footer with the ByteDance logo and copyright information.

Could you help pulling some real data  
for a quick test?



FRONT END DEV

Sure thing!



## DESIGN PROCESS

# Iterate towards better Layout

Turns out, it looks differently than I expected:

- ~46% one card per container
- ~38% two cards per container
- ~15% three or more cards per container

B-1

Cony Home Viper Zhongkui FirstLevel

Viper Snapshot  
Viper / Snapshot / Running Job

Running Job 23 Pending Job 96 Business Line TikTok My Jobs Only Search job name

Dashboard Snapshot Ironhide Agent List Task Job Pipeline Template Crontab

Fold Side Nav

Looks empty...

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FRONT END DEV

Could you narrow each card and add more columns in a row as possible?

ME



I agree with your **intent** to fit more content to increase nav efficiency.

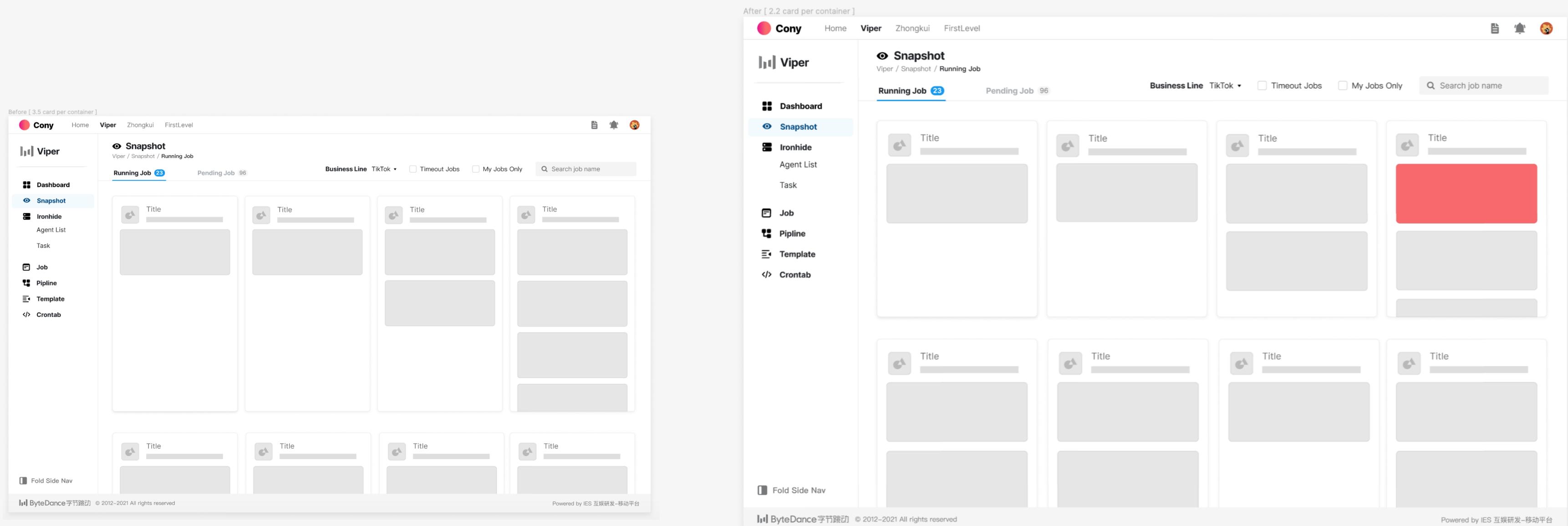
ME



How about this...

## DESIGN PROCESS

# Result



## Before

Each showing 3.5 cards  
max. **12 complete cards** per page

## After

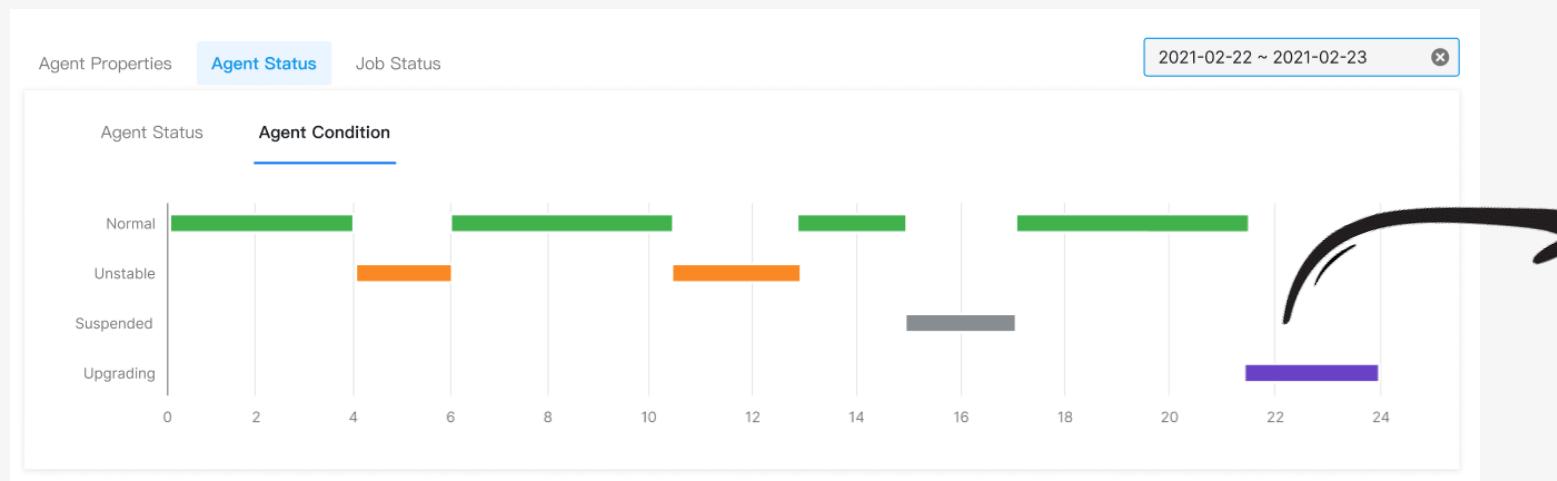
Each showing 2.2 cards. ( 0.2 = scrolling signifier )  
max. **16 complete cards** per page

**33% more content per page!**

## DESIGN PROCESS

# Iterate towards better Data Viz

### Before



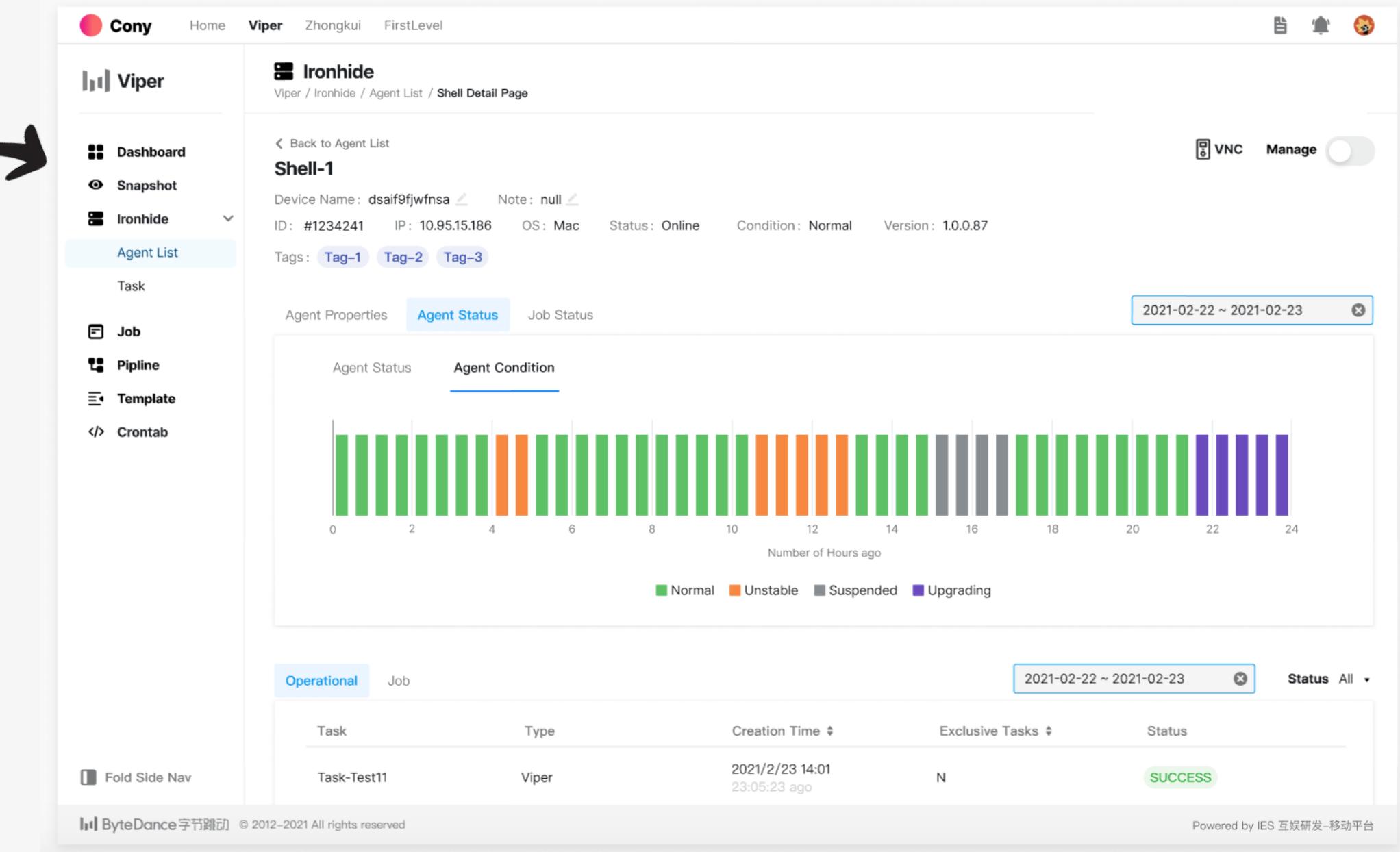
ME  
Why Gantt chart?



### User need:

Quickly understand the machine status over the past 24-hr.

### After



### Hidden Dev need:

Reuse component as possible

## DESIGN PROCESS

# Result

Added to ByteDance's Design System,  
facing **100,000+** users.

The screenshot shows a timeline of changes in the ByteDance Design System (DC) interface. The timeline includes:

- 2021.02.01:** Change Log for version 0.12.15. Author: DC, Component: Dropdown. What's Changed: Adding multi-layer dropdown.
- 2021.02.19:** Change Log for version 1.1.28. Author: DC, Component: InputNumber. What's Changed: Dark Mode updated.
- 2021.02.24:** Change Log for version 2021.02.24. Author: Emily Feng, Component: Illustration. What's Changed: Add empty status illustration.
- 2021.02.26:** Change Log for version 2021.02.26. Author: Yvonne Hou, Component: DataViz. What's Changed: Add new data viz types and their variations: heatmap, radar chart and status chart.

A large black circle highlights the entry for February 26th.

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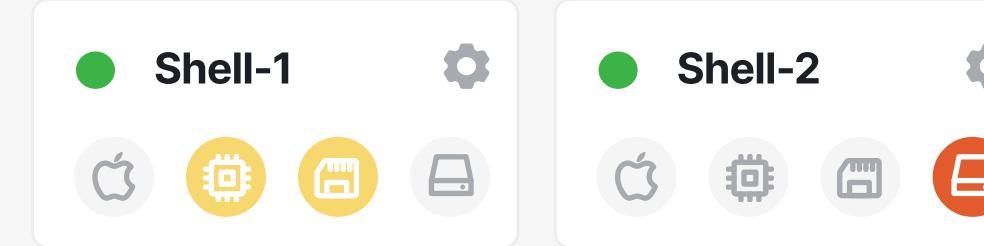
## DESIGN PROCESS

# Iterate towards better Accessibility

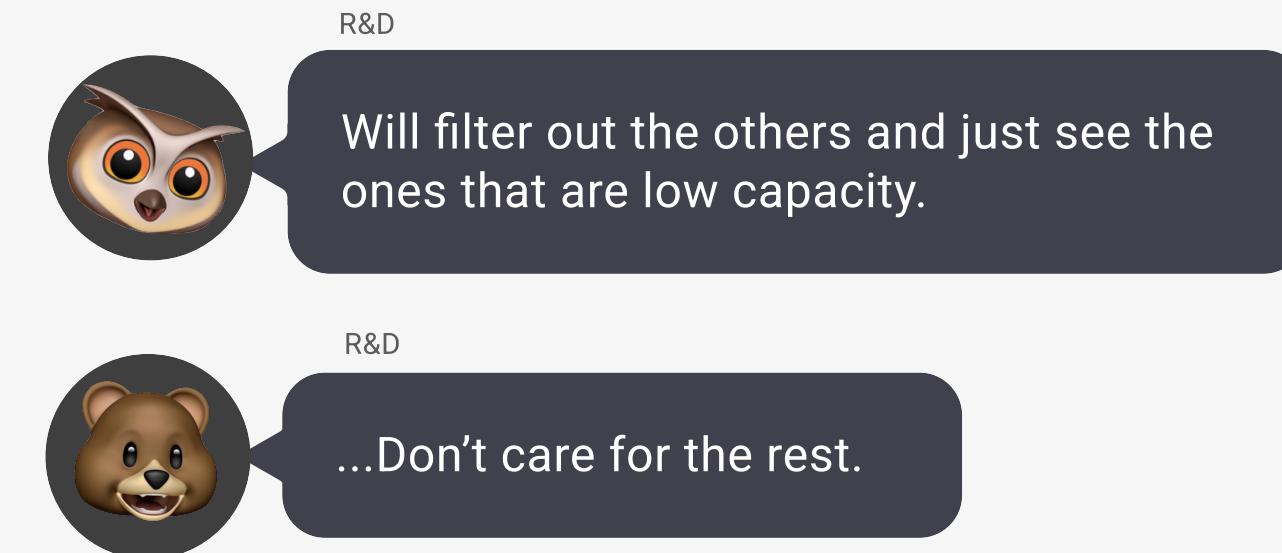
Iteration 1



Iteration 2

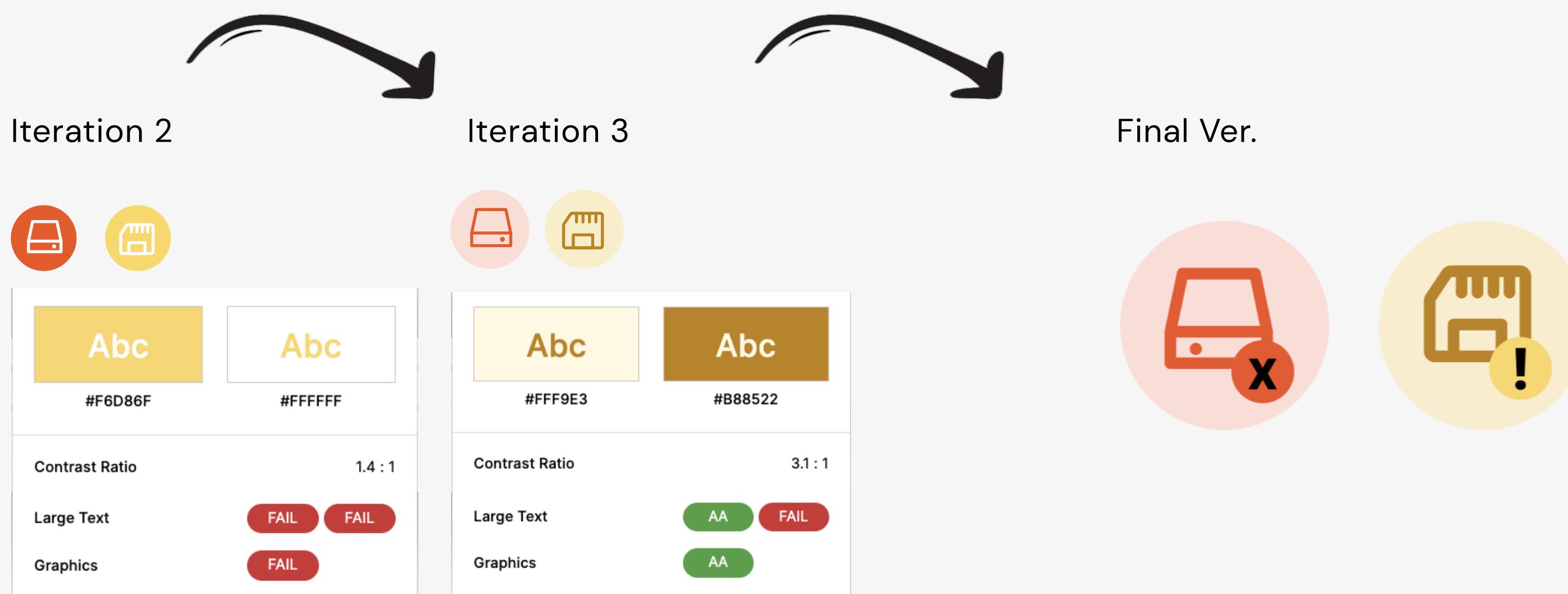


Users scan the page to spot *abnormalities*:  
Only Strain & Fully Laden matter.



## DESIGN PROCESS

# Result

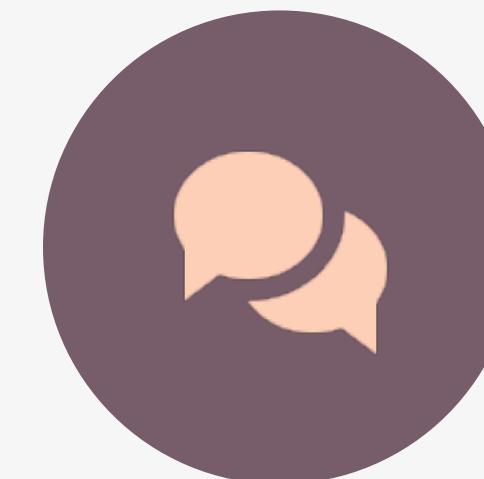


**DESIGN PROCESS**

# Design Validation

## DESIGN PROCESS

# Design Validation



### Think Aloud Usability Feedback Session



[zhenjie@bytedance.com](mailto:zhenjie@bytedance.com) TikTok server-side R&D; Working extensively on Spring Festival campaigns recently, frequent user.



[jun.thinker@bytedance.com](mailto:jun.thinker@bytedance.com) Monitor the data status on a weekly basis.

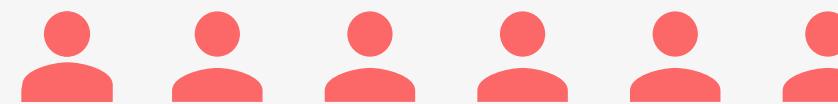


Team of 4, Focus group Backend developer team, frequent Cony users.

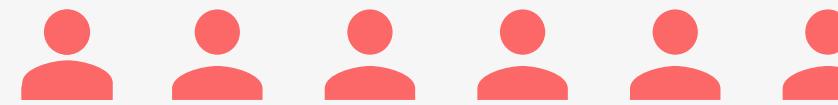
## DESIGN PROCESS

# Design Validation

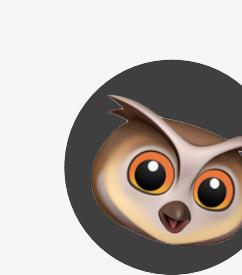
***Understand major data visualizations quickly.***



***Find their own jobs & timeout jobs quickly***



***Successfully create a pipeline from established template***



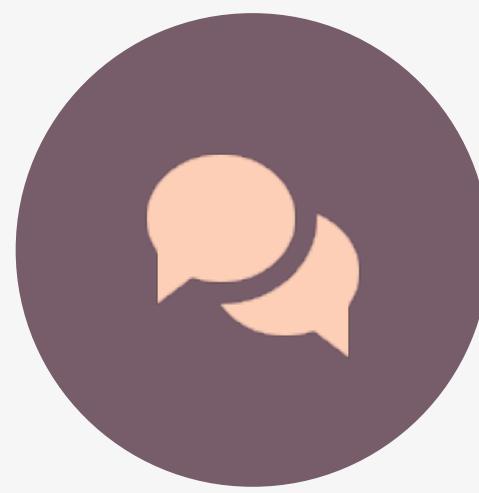
R&D  
It's easy to understand and find things. I can tell what's it for without your explaination.



R&D  
I don't see a problem switching.  
MANAGEMENT  
The graphs are neat and I will download for report use directly.

DESIGN PROCESS

# Design Validation



Think Aloud Usability  
Feedback Session



Cony Platform  
User Satisfaction Survey (2021.3)

**CSAT Score: ~86% (from 362 respondents)**  
**An Improvement compared against**

- old cony site,
- other internal tools within ByteDance,
- industry benchmarking scores according to ACSI.

# Thank You

## DESIGN PROCESS

# Iterate towards better Data Viz

The dashboard displays a heatmap of shell status across 91 shells. A tooltip for Shell 48 provides detailed information:

- Shell 48
- Job Number: 70
- Resource / Max: 55/90
- CPU Utilization %: 70
- Click shell to view more

A large black arrow points from the heatmap area to a callout box containing the following text:

Heat map can also work as a **shortcut** to quickly pinpoint a specific shell.

**ME**

**space\_detail**

**Viper**

**Dashboard**

**Machine Operation Status**

**Business Line** Aweme-iOS

**Current Number of Jobs**

**Job Operation** Resource Consumption

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