



DATA DEMAND 2024

HACKATHON 2024
NEI

TABLE OF CONTENTS

- ABOUT US
- PROBLEM STATEMENT
- SOLUTION OVERVIEW

- FEATURES
- CYBERSECURITY
- ENERGY
EFFICIENCY

- PROTOTYPE
- CONCLUSION



**NYEEM
JOYNER**

Mechanical Engineering
Sophomore



**ELIAS
GREENE**

Computer Science
Sophomore



**IAN
KINGORI**

Computer Science
Sophomore

Problem Statement

1

THE PROBLEM AT HAND

- Data centers consume significant amounts of energy and face cybersecurity risks. The challenge is to develop user-friendly solutions that make energy management more efficient while ensuring data center security.

2

KEY TAKEAWAYS

- Data centers are consuming way to much energy.
- Data centers are always at risk for cyberattacks.
- We need to find a solution that is both efficient and secure.



SOLUTION OVERVIEW

DATA DEMAND

A USER-FRIENDLY PROGRAM THAT
LEVERAGES TASK DISTRIBUTION TO
OPTIMIZE DATA STORAGE, PROCESSING, AND
DISTRIBUTION WHILE ALSO KEEPING ENERGY
USAGE TO A MINIMUM



Features

1

ENERGY EFFICIENCY

- Minimizing Server Usage
- Relocating Tasks based on Server Workload
- Tasks delegated to multiple servers

2

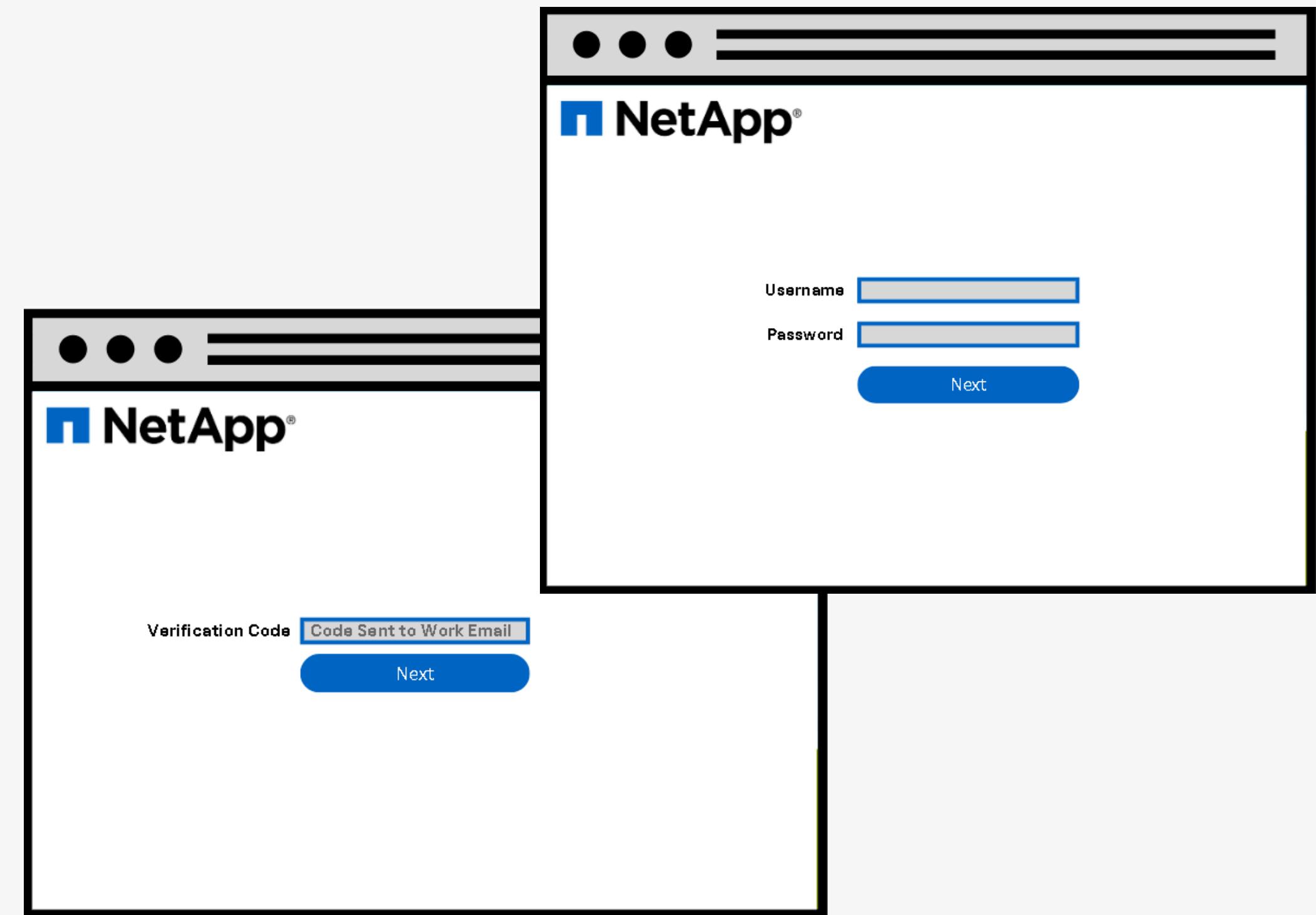
CYBERSECURITY MEASURES

- Security measures only to grant authorized users access.
- Username, Password, Verification Code



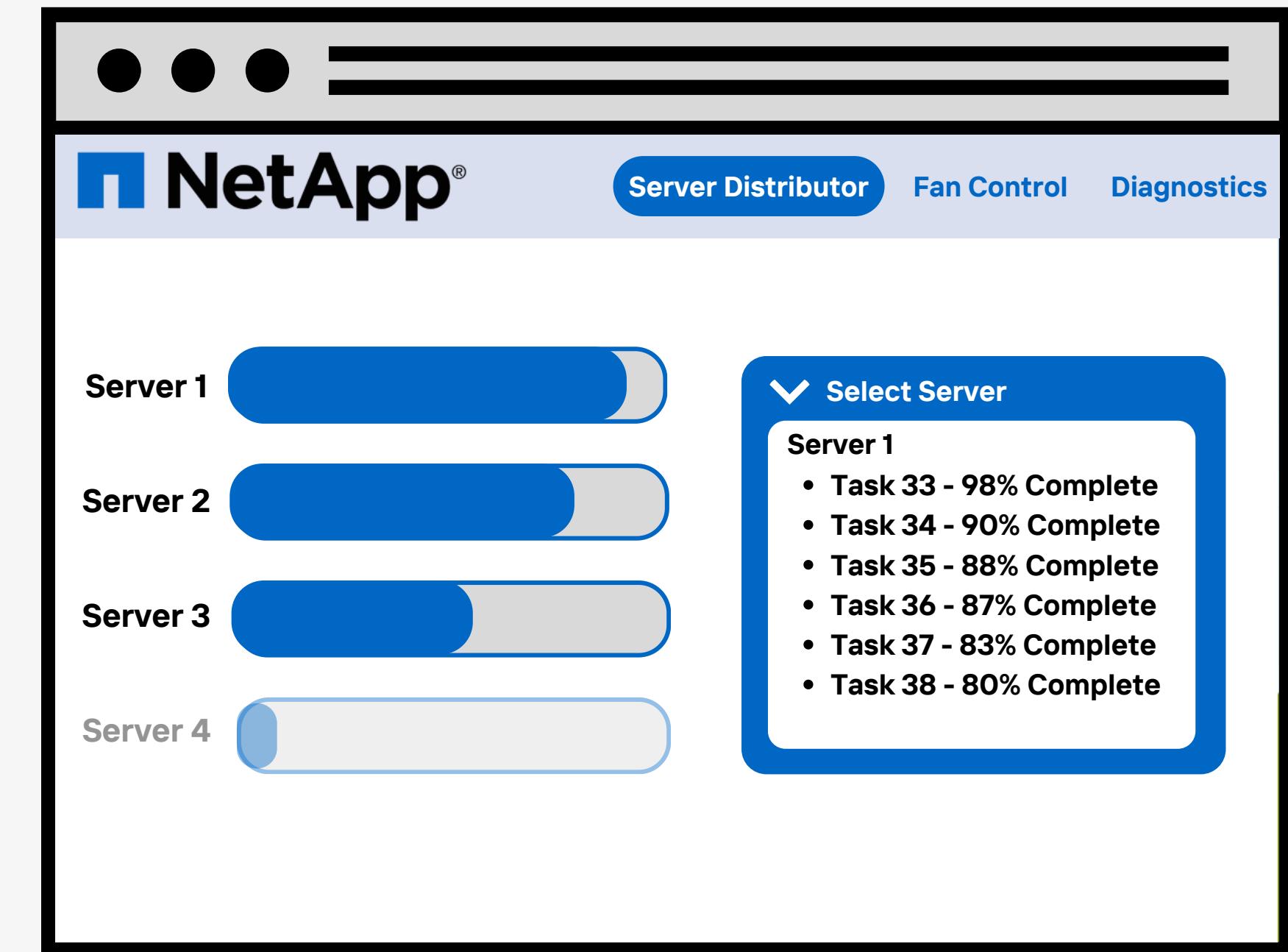
CYBERSECURITY

- EACH EMPLOYEE LOGS IN AND VERIFIES WITH A CODE SENT TO THEIR EMAIL
- SECURE AND EASY-TO-USE DEFENSE AGAINST UNAUTHORIZED ACCESS.
- STRENGTHENS SECURITY WITH MINIMAL WORKFLOW DISRUPTION.



ENERGY EFFICIENCY

THIS PROGRAM WILL MONITOR THE SERVER WORKLOAD. TASKS FLOW THROUGH A SERVER, AND ONCE THE THRESHOLD IS MET, AN ADDITIONAL SERVER WILL ACTIVATE TO DISTRIBUTE THE TASKS ACCORDINGLY.



PRODUCT

DATA DEMAND 2024

[LINK](#)

CONCLUSION

KEY TAKEAWAYS

- Security
- Efficiency
- Simplicity



- *Username and password system to ensure data integrity*
- *Dynamic task distribution based on workload and temperature to prevent overheating.*
- *User-friendly interface requiring minimal training for easy adoption*