



NAS - Using raspberry pi

INTRODUCTION

Background and Motivation:

Traditional NAS setups often limit access to local area networks, prompting the need for a secure and convenient remote access system.

Statement of the Problem/Objectives:

The objective of this project is to establish a reliable and user-friendly system that enables users to access their NAS via Raspberry Pi from anywhere with an internet connection. The main objective of this NAS is to overcome Privacy Concerns of NAS users.

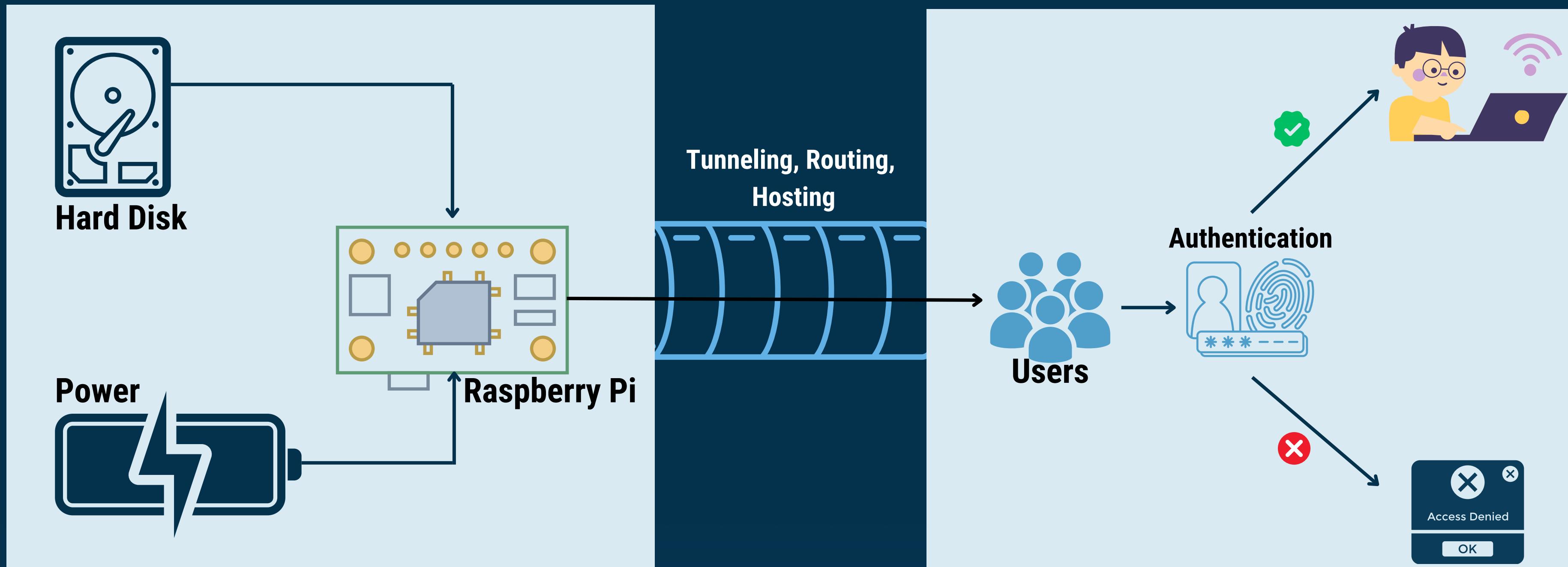
Overview:

- This presentation will cover the background and context of the project, the methodology used, implementation details, results obtained, discussion of findings, conclusion, and references.

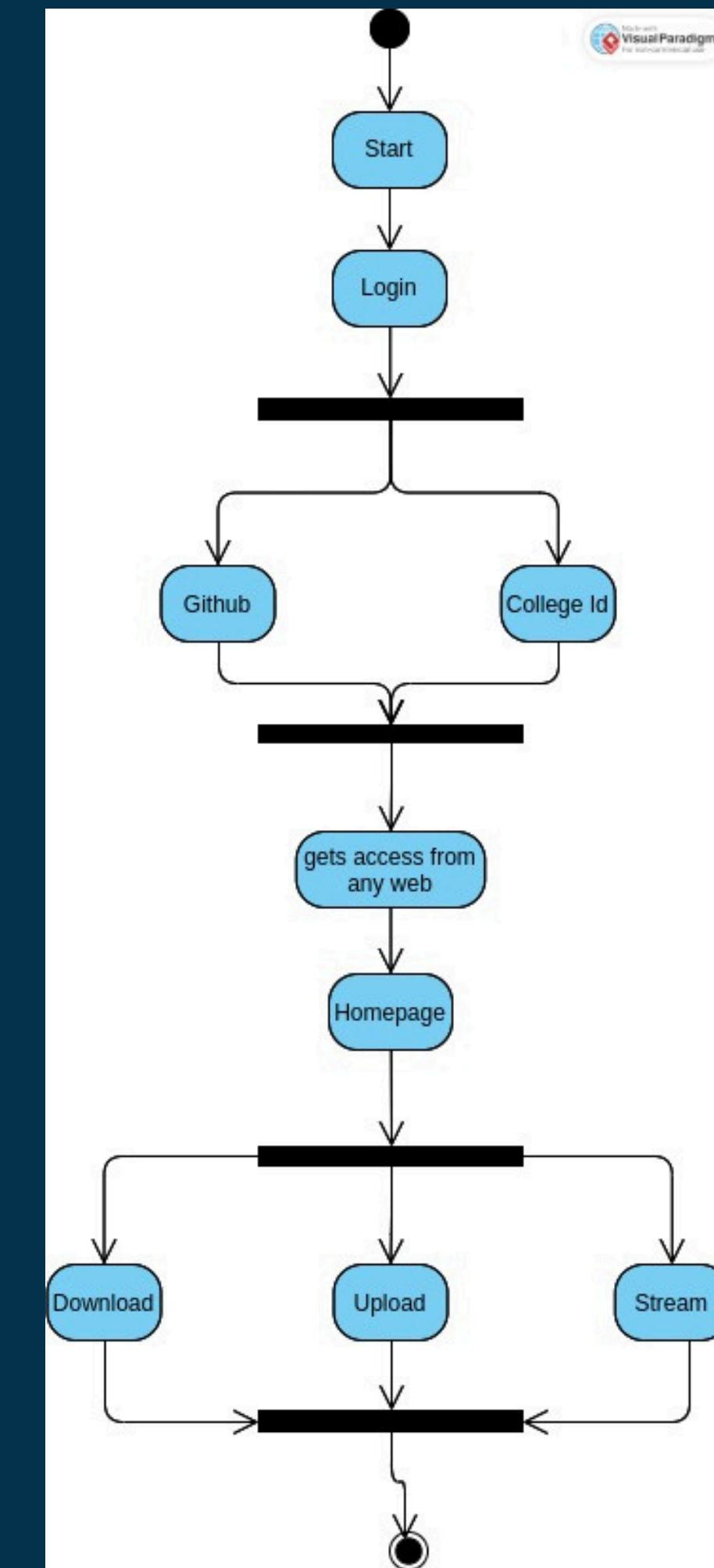
Methodology

- The project follows a step-by-step approach, including hardware and software setup, Cloudflare Tunnel integration, and security implementation.
- Hardware such as Raspberry Pi, operating systems like Raspbian or Ubuntu Server, NAS software such as Samba and Cloudflare Tunnel are utilized.
- Detailed steps are provided for system design, software installation, NAS configuration, Cloudflare Tunnel setup, Raspberry Pi configuration, security measures, and testing.

Configuration Diagram



Activity Diagram



Project Implementation

STEPS FOR SETTING UP RASPBERRY PI NAS

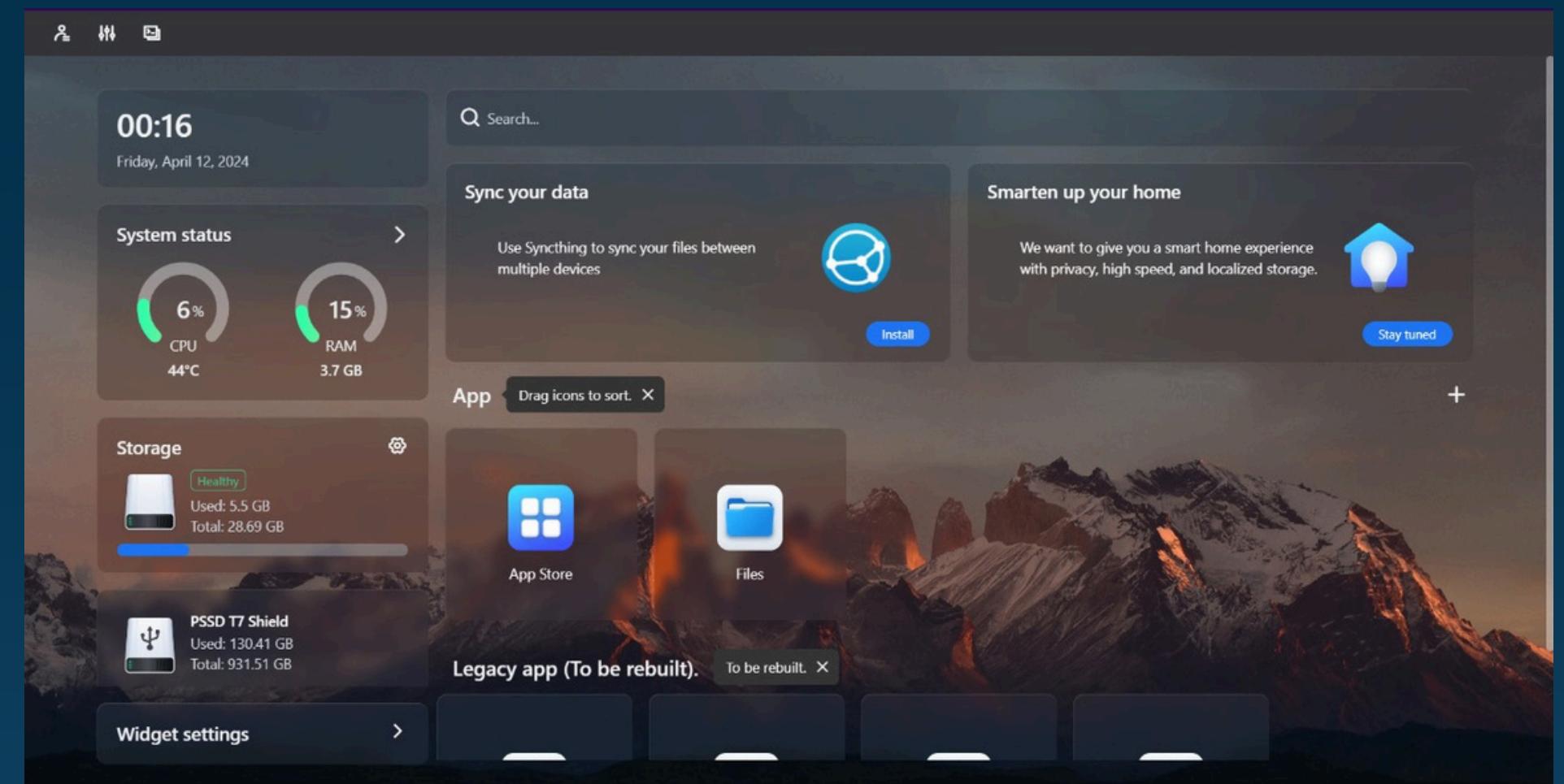
- 01 CREATING A CLOUDFLARE ACCOUNT
- 02 CONFIGURING CLOUDFLARE TUNNEL
- 03 ENSURING SECURITY CONSIDERATIONS ARE ELABORATED

Security Considerations: HTTPS encryption, authorization methods, access controls, and testing procedures are discussed to ensure data security and integrity.

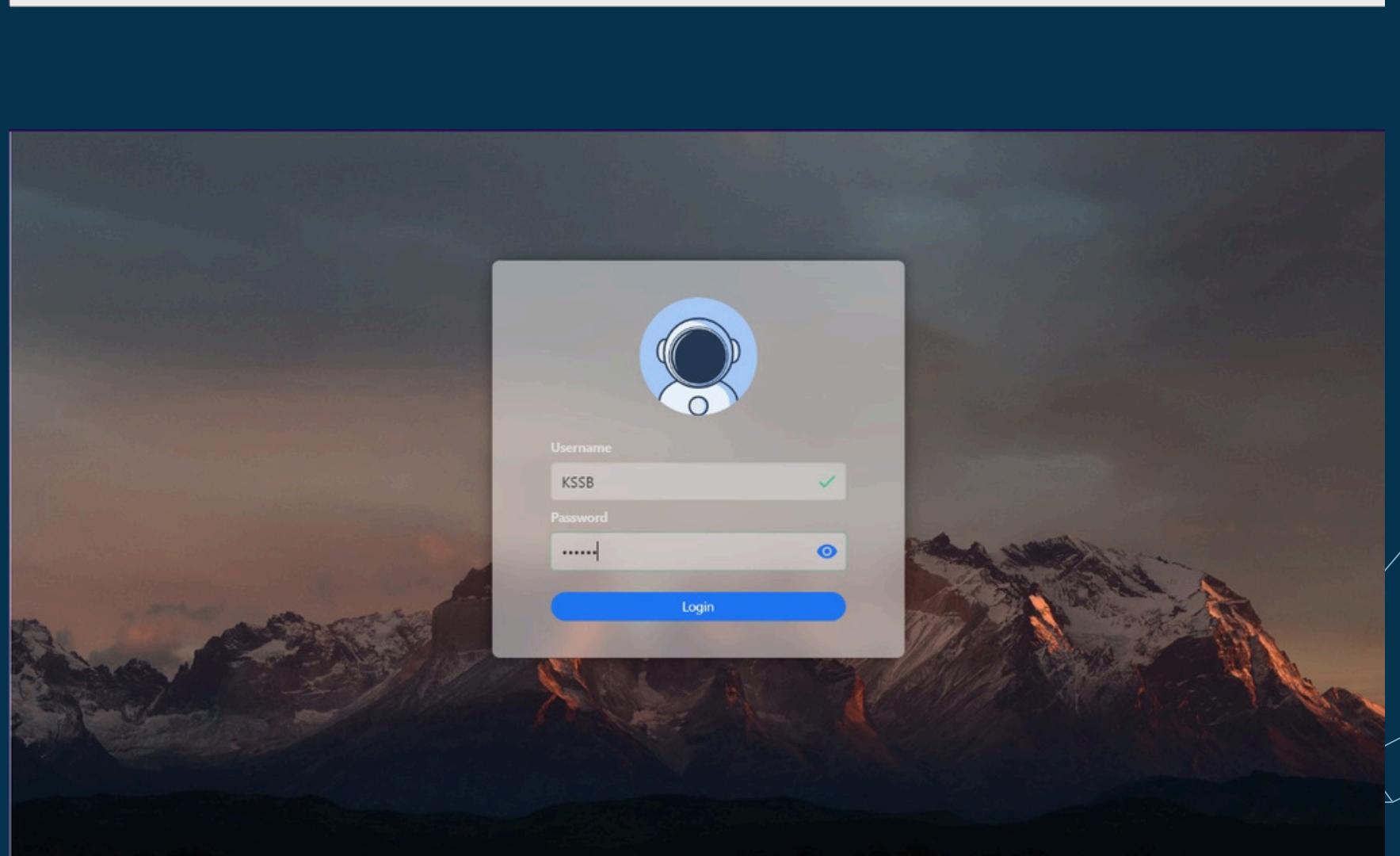
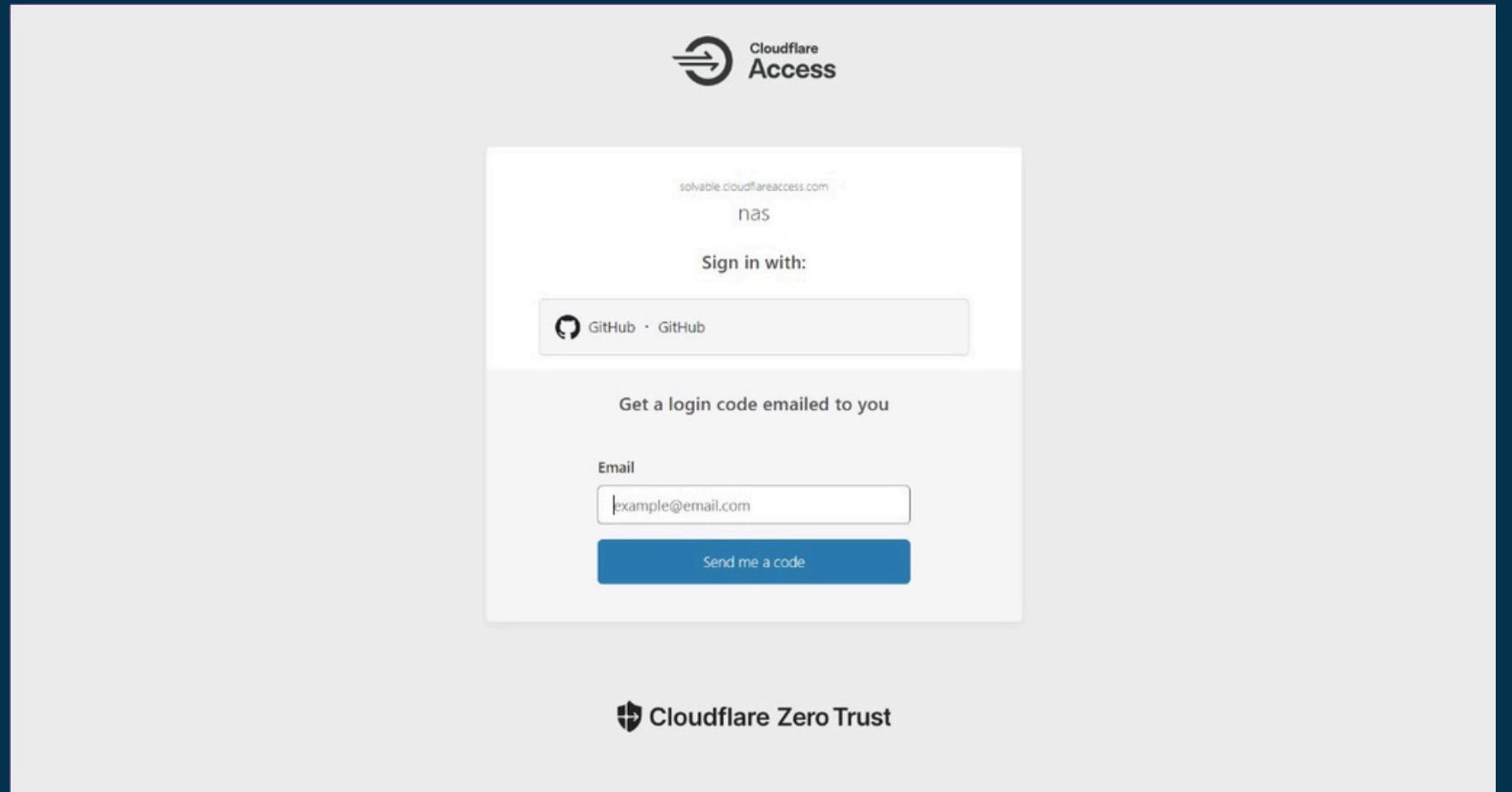
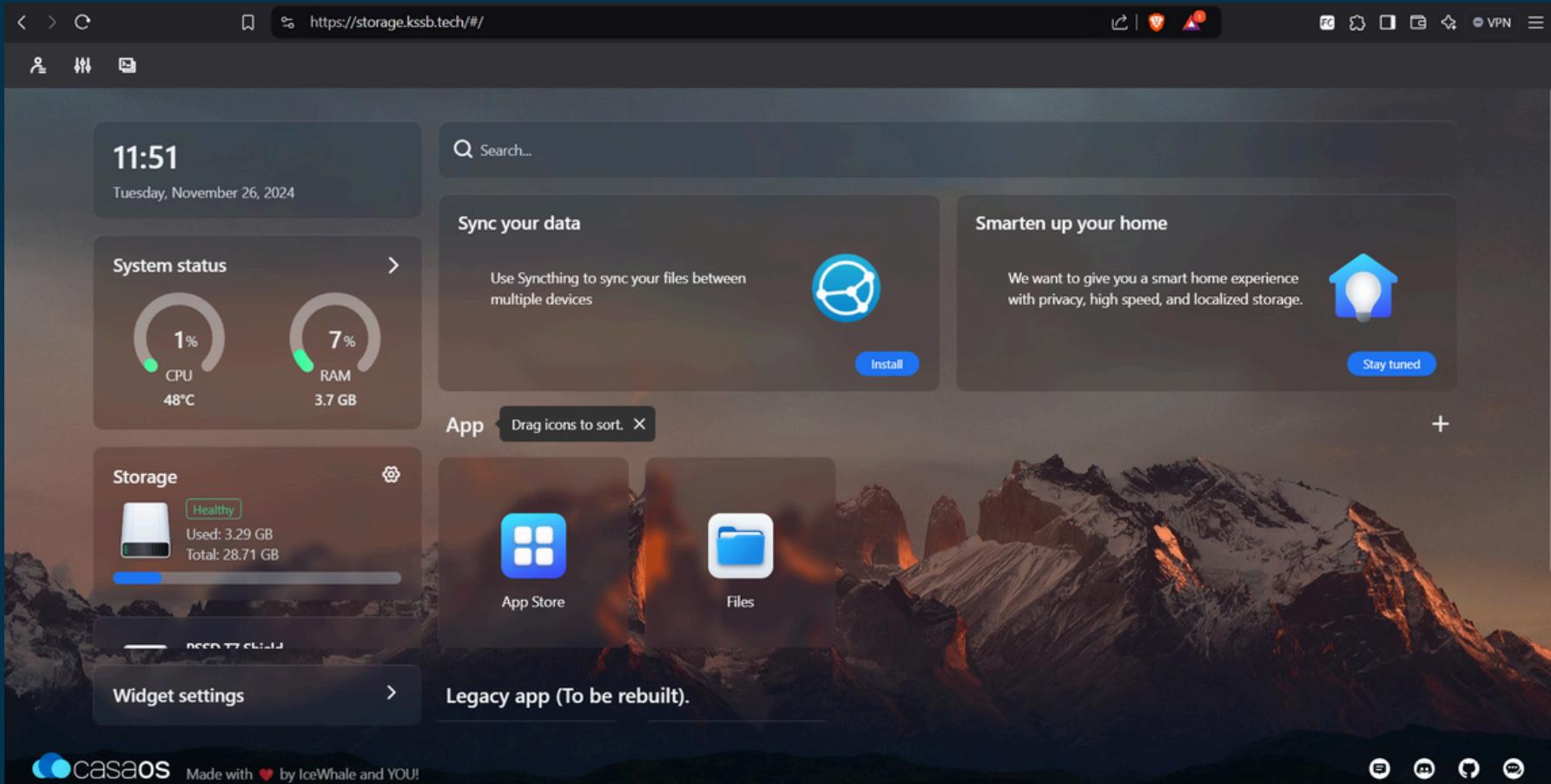
Results :

- Successful Creation of Remote Access:
- Enhanced Performance and Reliability
- Positive Feedback and User Experience:

SAMPLE RUN

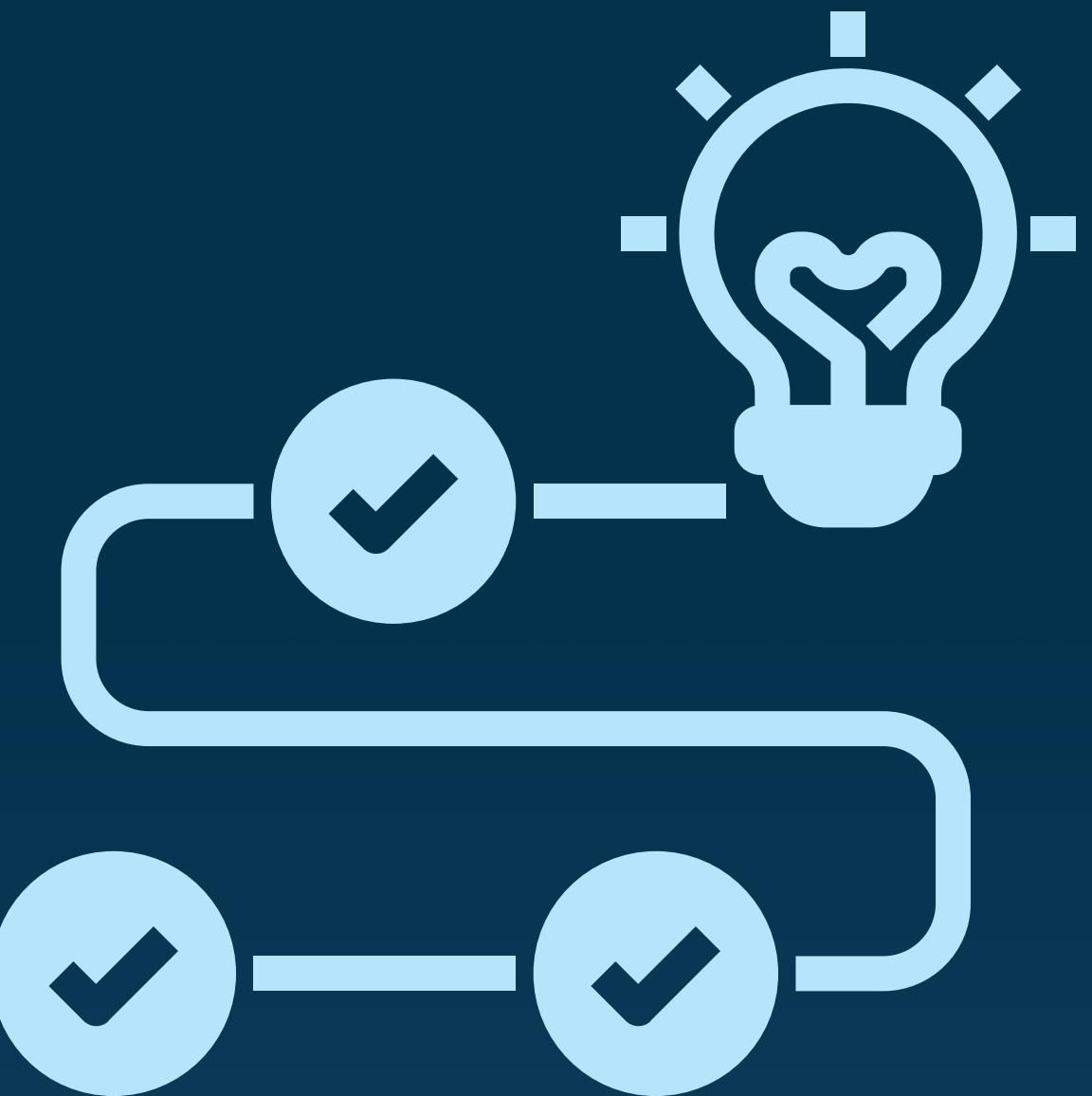


Project DEMO



Conclusion

- Main Results and Contributions: The project establishes a secure remote access system for Raspberry Pi NAS, offering secure data transmission, cost-effectiveness, and adaptability.
- Importance and Relevance: The project addresses the growing need for secure and convenient remote data access solutions, particularly for individuals concerned about control and security.
- Future Work and Extensions: Suggestions for future work include exploring advanced NAS features, implementing dynamic DNS, setting up a reverse proxy, and developing mobile applications.



References :

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- Seagate: "What is NAS?" [Online]. Available: <https://www.seagate.com/in/en/blog/what-is-nas-master-ti/>
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Thank
You

