ZEROTH REVIEW

TEAM 3

Vericloud:

Blockchain-Aided Bloom Filter Verification System for Secure Cloud Storage

Guide

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OUTLINE

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1.Introduction

Cloud storage offers convenience, but users often lack a way to verify if their data has been altered or deleted.

VeriCloud combines Bloom filters with blockchain to enable tamper-proof verification of cloud data without relying on the provider.

It brings trust, transparency, and public auditability to cloud storage in a decentralized way.

2.Problem Definition

- Users cannot independently verify whether their data stored in the cloud has been altered or deleted, as they must rely on the cloud service provider's assurances.
- Traditional verification methods are resource-heavy and unsuitable for large-scale or frequent audits.
- Centralized verification introduces trust issues and creates a single point of failure.
- There is a need for a privacy-preserving system that enables public auditing without revealing file content.

https://doi.org/10.1155/2022/3688164

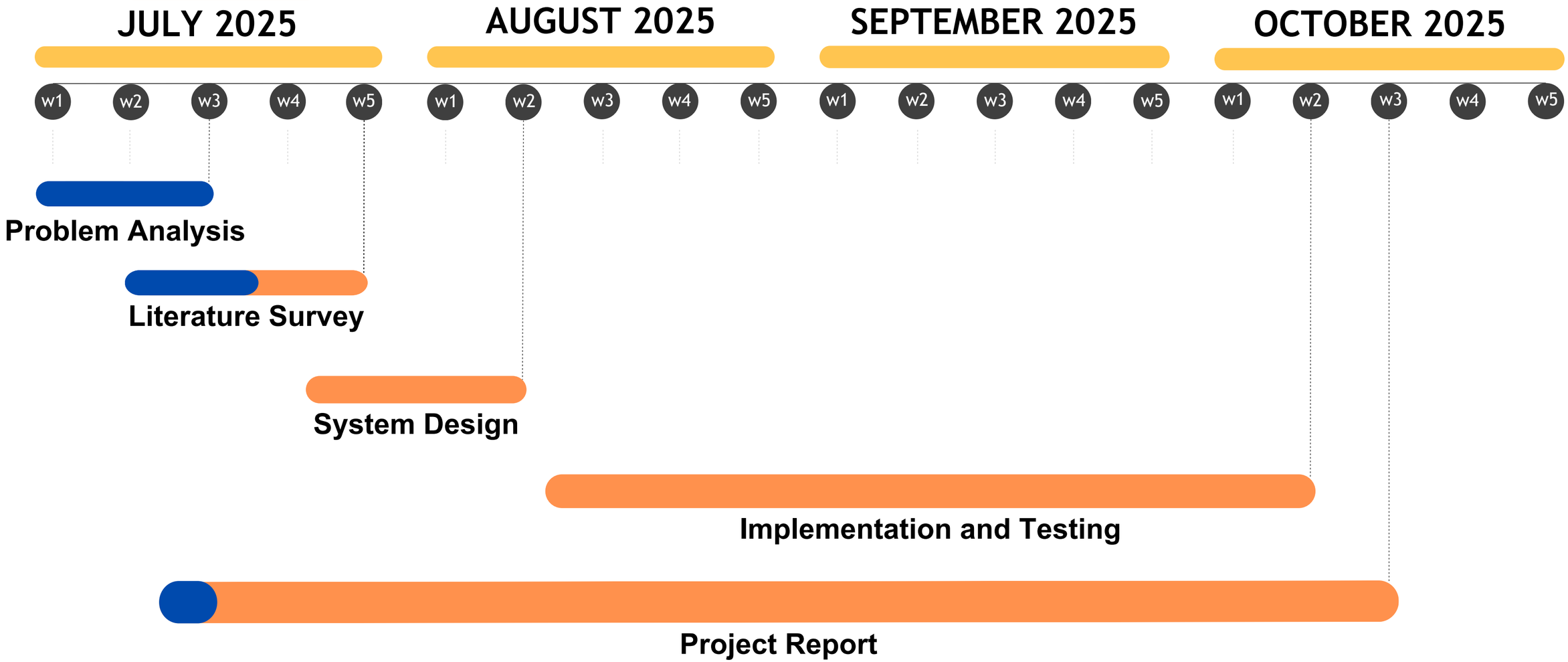
3.Objective

- To design and implement a privacy preserving verification system that ensures the integrity and authenticity of cloud-stored data by leveraging Bloom filters for efficient data summarization
- Blockchain technology for tamper-proof storage, enabling privacy-preserving and publicly verifiable audits without accessing the actual file content.

4.Base Paper

- Liang et al., 2023. Privacy-Preserving Bloom Filter-Based Keyword Search Over Large Encrypted Cloud Data, IEEE Transactions on Computers, Vol. 72, No. 11, November 2023. https://ieeexplore.ieee.org/document/10148628

5.Timeline


JULY 2025
AUGUST 2025
SEPTEMBER 2025
OCTOBER 2025
w1 w2 w3 w4 w5 w1 w2 w3 w4 w5 w1 w2 w3 w4 w5 w1 w2 w3 w4 w5
Problem Analysis
Literature Survey
System Design
Implementation and Testing
Project Report
Completed Work
Pending Work

6.Conclusion

- This project aims to solve the problem of trust and tampering in cloud storage.

- We are building a system that uses Bloom filters and blockchain to check if cloud data has been changed.

THANK YOU