

Protocol Audit Report

WISPY

APRIL 1, 2025



PasswordStore Audit Report

Version 1.0

Cyfrin.io

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Protocol Summary

PasswordStore is a protocol dedicated to storage and retrieval of a user's passwords. The protocol is designed to be used by a single user, and is not designed to be used by multiple users. Only the owner should be able to set and access this password.

Disclaimer

The WISPYIWNL team makes all effort to find as many vulnerabilities in the code in the given time period, but holds no responsibilities for the findings

provided in this document. A security audit by the team is not an endorsement of the underlying business or product. The audit was time-boxed and the review of the code was solely on the security aspects of the Solidity implementation of the contracts.

Risk Classification

		Impact		
Likelihood	High	High	Medium	Low
	Medium	H	H/M	M
	Low	H/M	M	M/L
		M	M/L	L

We use the CodeHawks severity matrix to determine severity. See the documentation for more details.

Audit Details

The findings described in this document correspond the following commit hash:

Commit Hash:

7d55682ddc4301a7b13ae9413095feffd9924566

Scope

`./src/`

`#-- PasswordStore.sol`

Roles

- Owner: The user who can set the password and read the password.
- Outsides: No one else should be able to set or read the password.

Executive Summary

Issues found

Severity	Number of issues found
High	2
Medium	0

Recommended Mitigation: Due to this, the overall architecture of the contract should be rethought. One could encrypt the password off-chain, and then store the encrypted password on-chain. This would require the user to remember another password off-chain to decrypt the password. However, you'd also likely want to remove the view function as you wouldn't want the user to accidentally send a transaction with the password that decrypts your password.

[H-2] PasswordStore::setPassword has no access controls, meaning a non-owner could change the password

Description: The PasswordStore::setPassword function is set to be an external function, however, the natspec of the function and overall purpose of the smart contract is that This function allows only the owner to set a new password

```
function setPassword(string memory newPassword) external {
    s_password = newPassword;
    emit SetNetPassword();
}
```

Impact: Anyone can set/change the password of the contract, severely breaking the contract intended functionality.

Proof of Concept: Add the following to the PasswordStore.t.sol test file.

Code

```
function test_anyone_can_set_password(address randomAddress) public {
    vm.assume(randomAddress != owner);
    vm.prank(randomAddress);
    string memory expectedPassword = "myNewPassword";
    passwordStore.setPassword(expectedPassword);

    vm.prank(owner);
    string memory actualPassword = passwordStore.getPassword();
    assertEq(actualPassword, expectedPassword);
}
```

Recommended Mitigation: Add an access control conditional to the setPassword function.

```
if(msg.sender != s_owner){
    revert PasswordStore__NotOwner();
}
```

Informational

[I-1] The `PasswordStore::getPassword` natspec indicates a parameter that doesn't exist, causing the natspec to be incorrect

Description:

```
/*  
 * @notice This allows only the owner to retrieve the password.  
 * @param newPassword The new password to set.  
 */  
function getPassword() external view returns (string memory) {}
```

The `PasswordStore::getPassword` function signature is `getPassword()` which the natspec says it should be `getPassword(string)`

Impact: The natspec is incorrect.

Recommended Mitigation: Remove the incorrect natspec line.

- * @param newPassword The new password to set.