SENSE PROJECT - USER TEST REPORT

Ⅰ. Introduction

SENSE is a project aims to develop a sophisticated, rule-based smart sign system integrated with various IoT devices and platforms, with a focus on user personalization and automated status updates. The current project focus includes the improving user interface, implementing ALDS, and expanding multi-user support. This user test report records the testing work done for the above subprojects.

Ⅱ. User Reviews

Introduce user arrangement, user reviews, and overall conclusions of the participants in the test.

1. User Reviews

After the test, we conducted interviews some friends and obtained the following user feedback:

- User interface friendly. they really like the design of “saved locations” in the ALD project, which is simple and clear, making it easy to manage my IoT devices.
- We ultimately choose Jmeter and human login for testing. We were pleasantly surprised to find that when using the Jmeter script to enable 20 virtual users to access the system simultaneously, the system still maintained good throughput and response rates. Subsequently, it was confirmed through querying logs and databases that the system correctly stored data from different users. This proves that the system can support multiple users and has good concurrency..

2. Reviews Conclusions

From the user reviews above, we can derive the following solutions:

SENSE Project has a good user interface and is user-friendly.

SENSE Project has good concurrency and robustness, and can efficiently complete tasks even when multiple users access it simultaneously.

SENSE Project can effectively assist users in managing and viewing IoT devices, and has good privacy.

Ⅲ. Test report

1. Test Overview

Test types: usability testing, acceptance testing, cypressing test

Test scope: Overall project

Testing method: Integration testing, use GitHub actions

2. Test Case

Ten test cases were designed for the SENSE project, each of which includes information such as Test ID, Name. Execution steps, Expected results, Actual results and Conclusion. The test cases are as followed:

Case 1

Test Case ID	TC002	**Name**	**User Registration and Login Test**
Test Group	Ui team		
Execution steps	Test the process of user registration, login, password change, and personal profile creation		
Expected results	The process should be smooth without errors		
Actual results	Same as expected.		
Conclusion	User Registration and Login meets the requirements.		

Case 2

Test Case ID	TC003	**Name**	**SENSE Account Creation and Link Test**
Test Group	Ui team		
Execution steps	Test the process of creating a SENSE account and linking it to a personal profile		
Expected results	Account creation and linking should be successful		
Actual results	Same as expected.		
Conclusion	SENSE Account Creation and Link meets the requirements.		

Case 3

Test Case ID	TC004	**Name**	**Personalized Status Update Test**
Test Group	Ui team		
Execution steps	Test whether the system can provide personalized status updates for each user		
Expected results	Each user should receive personalized status updates		
Actual results	Same as expected.		
Conclusion	Personalized Status Update meets the requirements.		

Case 4

Test Case ID	TC005	Name	Multi-User Data Secure Storage Test
Test Group			
Execution steps	Test whether the system can securely store data from multiple users		
Expected results	Data should be securely stored		
Actual results	Same as expected.		
Conclusion	Multi-User Data Secure Storage meets the requirements.		

Case 5

Test Case ID	TC006	Name	Multi-User Concurrent Use Test
Test Group	Muti user team		
Execution steps	Test whether the system can support concurrent use by up to 20 users (Using Jmeter)		
Expected results	The system should run stably without performance bottlenecks		
Actual results	Same as expected.		
Conclusion	Multi-User Data Concurrent Use meets the requirements.		

Case 6

Test Case ID	TC007	Name	ALDS Functional Implementation Test
Test Group	Alds team		
Execution steps	Test the functional implementation of ALDS, including the collection and transmission of user location data		
Expected results	The functionality should meet expectations		
Actual results	Same as expected.		
Conclusion	ALDS Functional Implementation meets the requirements.		

Case 7

Test Case ID	TC008	Name	User Location Information Viewing and Editing Test
Test Group			
Execution steps	Test whether users can view and modify the location where they save		
Expected results	Users should be able to view and modify location information		

Actual results	Same as expected.
Conclusion	User Location Information Viewing and Editing meets the requirements.

Case 8

Test Case ID	TC009	**Name**	**User Current Location and Saved Location Relationship Test**
Test Group	Alds team		
Execution steps	Test whether users can view their current location and its relationship with the saved location		
Expected results	Users should be able to view the relationship		
Actual results	Same as expected.		
Conclusion	User Current Location and Saved Location Relationship meets the requirements.		

Case 9

Test Case ID	TC010	**Name**	**User Account Privacy Settings Test**
Test Group			
Execution steps	Test whether users can configure their own privacy settings		
Expected results	Users should be able to configure privacy settings		
Actual results	Same as expected.		
Conclusion	User Account Privacy Settings meets the requirements.		

3. Key test results

SENSE has a user-friendly interface that enables effective management of user accounts.

SENSE can support multiple users to use the system simultaneously and manage the data of different users well.

SENSE can collect and manage users' location information, and support users to modify it. At the same time, SENSE performs well in privacy protection.