

# SENSE Multi-User System Test Report

## I. Test Overview

This test aims to evaluate the functionality and usability of the SENSE multi-user system, with a focus on users' experiences in sign creation, status update, and interaction with other users' signs.

## II. Test Participants

The test participants include different types of users such as office workers and Internet of Things (IoT) enthusiasts to ensure the representativeness of the test results.

## III. Test Environment

The test was conducted in a simulated actual use environment, including different devices and network conditions.

## IV. Test Results

### (A) Sign Creation

#### 1. Process Smoothness

- Most users were able to complete the sign creation process smoothly. When using the tools and interfaces provided by the system, the operations were relatively intuitive and met users' expectations.
- However, some users reported that the interface response speed was slow when selecting certain complex styles or templates and needed further optimization.

#### 2. Functional Completeness

- Users could use various elements provided by the system to customize signs, including text, color, icons, etc., meeting the basic personalization needs.
- But for some advanced users, they hoped to be able to import custom pictures or graphics as sign elements, and the system currently does not support this function.

## **(B) Status Update**

### **1. Real-Time Performance**

- In most cases, users' status updates could be reflected on the sign in a timely manner. Whether it was a manual update or an automatic update based on the system-set rules, it showed good real-time performance.
- However, when the network environment was unstable, there might be a delay in the status update, and the maximum delay time could reach [X] minutes, which might affect the user experience.

### **2. Accuracy**

- The system could accurately update the sign status according to the rules set by the user, and there was no incorrect status display.

## **(C) Interaction with Other Users' Signs**

### **1. Viewing Function**

- Users could easily view other users' signs, and the interface layout was reasonable and the information display was clear.
- However, when the number of users was large, it might be difficult to find a specific user's sign, and more convenient search or filtering functions needed to be provided.

### **2. Interaction Function**

- Currently, the system only supports viewing other users' signs and lacks further interaction functions, such as commenting on or liking other users' signs. Users reported that they hoped to add these social interaction elements to increase the fun and practicality of the system.

## **V. Problem Summary**

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- 1.** During the sign creation process, the interface for creating complex signs has a slow response and needs to be optimized. Additionally, the system currently does not support the import of custom pictures, which is not user-friendly for developers.
- 2.** As the amount of user data increases, the interface for querying users has a slow response, and it has not yet been possible to quickly query users according to specific signs.

3. The interaction function between users with different signs has not yet been implemented.

## VI. Conclusion

Through this test, we have understood the current status and existing deficiencies of the functionality and user-friendliness of the SENSE multi-user system.

Current status: The implementation of basic functional interfaces has been completed and verified.

Deficiencies: Some parts need further optimization to help improve the user-friendliness of the system.