

Sturge-Weber Foundation Mobile App Test Report

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Test Summary

Purpose

This testing effort validates the functionality, usability, and reliability of the Capstone Medical Assistant App, designed to support users—especially those with rare conditions—by managing their daily care and health records.

Testing Approach

Manual functional testing was conducted across all major app features due to the absence of automated unit/UI tests. Exploratory testing was supported by walkthroughs, UI interaction, and input validation checks.

In addition, **edge case testing** was performed to ensure graceful behavior under abnormal inputs or missing data.

Test Prioritization

Tests were prioritized in the following order:

1. **Core health tracking (medications, equipment, supplies)**
2. **Calendar and reminders**
3. **Timer and analytics**
4. **User accounts**
5. **Doctor/resource tools**
6. **Input validation and edge cases**

Test Descriptions and Organization

Group: Medication, Equipment, and Supply Tracking

Test 1 – Add Medication Entry

- **Description:** User adds medication with name, dosage, times, and reminder.
- **Pass Criteria:** Medication displays in list and reminder activates.

Test 2 – Edge: Medication with Missing Fields

- **Description:** User attempts to save a medication without required fields.
- **Pass Criteria:** Save button is disabled or validation error shown.

Test 3 – Edge: Add Medication with Past Time

- **Description:** Enter reminder time in the past.
 - **Pass Criteria:** System resets or ignores past time and shows validation.
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Test 4 – Add Equipment Record

- **Description:** Add all fields including maintenance and replacement dates.
- **Pass Criteria:** Entry saved and visible in list.

Test 5 – Edge: Invalid Equipment Dates

- **Description:** Maintenance date before purchase date.
 - **Pass Criteria:** Validation prevents save; user notified.
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Test 6 – Add/Edit/Delete Supply

- **Description:** Full supply lifecycle tested.
- **Pass Criteria:** Entries persist and UI updates properly.

Test 7 – Edge: Supply Without Name

- **Description:** User tries saving a supply without a name.
 - **Pass Criteria:** Input rejected with error message.
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Group: Calendar and Reminder System

Test 8 – Create Calendar Event

- **Description:** Add event with valid title, date, and time.
- **Pass Criteria:** Event appears on correct day and is saved.

Test 9 – Edge: Event with Blank Title or Invalid Date

- **Description:** User tries adding event without a title or with malformed date.
- **Pass Criteria:** Form blocks submission or displays error.

Test 10 – Reminder Trigger

- **Description:** Simulate event reminder notification.
 - **Pass Criteria:** Notification fires at scheduled time.
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Group: Timer

Test 11 – Timer Functionality

- **Description:** Start, pause, stop, and reset timer.
- **Pass Criteria:** Timer counts correctly and resets properly.

Test 12 – Timer History Logging

- **Description:** Complete a timer session and verify it's logged.
- **Pass Criteria:** Entry appears in history with correct duration.

Test 13 – Edge: Timer Reset While Running

- **Description:** Hit reset mid-session.
- **Pass Criteria:** Timer stops and resets with no crash.

Group: Profile and Session

Test 14 – Create User

- **Description:** User signs up with name, username, and password.
- **Pass Criteria:** Info is saved in Room DB and redirects on success.

Test 15 – Login and Session Management

- **Description:** Verify valid login and persistent session using SessionManager.
- **Pass Criteria:** User stays logged in after closing app.

Test 16 – Edge: Empty Login Fields

- **Description:** Try to force a login with pin spam/no pin
 - **Pass Criteria:** Login blocked with appropriate feedback.
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Group: Doctor Info and Educational Resources

Test 17 – Add Doctor Entry

- **Description:** Create a doctor entry with name, clinic, contact, etc.
- **Pass Criteria:** Entry saved and listed in UI.

Test 18 – Edge: Extremely Long Notes

- **Description:** Paste 1000+ characters in doctor notes.
- **Pass Criteria:** App handles input (scrollable or trimmed).

Test 19 – Browse Articles/Videos

- **Description:** Open and scroll through articles/videos list.
 - **Pass Criteria:** Links load properly and content is readable.
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3. Test Status and Justification Table

Test Requirement	Pass / Fail	Notes / Justification
Add/Edit/Delete Medication	Pass	All flows worked correctly with input validation.
Edge Case: Missing/Past Medication Fields	Pass	Handled with validation and disabled buttons.
Add/Edit/Delete Equipment	Pass	Functioned as intended with proper scheduling.
Edge Case: Invalid Equipment Dates	Pass	App prevents illogical entries.
Add/Edit/Delete Supplies	Pass	CRUD fully tested; errors prevented on missing name.

Calendar Event Add/Edit	Pass	UI and data binding successful.
Edge Case: Invalid Calendar Input	Pass	Input validation works; no crashes.
Notifications (All Types)	Pass	Triggered on-time using AlarmManager.
Timer & Analytics Tracking	Pass	No bugs; history and stats accurate.
Edge Case: Timer Interruptions	Pass	No crashes or hangs.
User Registration and Login	Pass	Data persisted and session maintained.
Edge Case: Empty/Invalid Login Info	Pass	Blocked with message to user.
Doctor Info Add/Edit	Pass	Long inputs handled; no overflow.
Browse Articles and Videos	Pass	RecyclerView loads and responds correctly.

Unexecuted / Recommendations

- No failed tests reported during this cycle.
- Recommendation: Add JUnit and Espresso tests for core flows (e.g., saving medication, triggering reminders) to support continuous testing.
- Include UI stress testing for devices with smaller screens, and heavy database use.

Full Name	Not contribution (0 %)	Poor contribution (20%)	Fair contribution (50%)	Good contribution (80%)	Excellent contribution (100%)
Eli Kitch					X
Jeremy Danecker					X
Gannon Gebauer					X