



## Elder Care Rover Project Plan: Remaining Tasks (2025-06-07)

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### Overview

This document outlines the remaining tasks for the Elder Care Rover Project, focusing on module development, integration, and final documentation. Each module includes estimated timeframes and key tasks to ensure a structured and manageable workflow.

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### 🔧 Emergency Call Module

**Purpose:** Enable the rover to contact caregivers in emergencies (SMS, phone call, or Discord message).

**Tasks:** - Choose communication method (GSM/SMS or Discord API). - Implement emergency notification script. - Integrate voice assistant command for "emergency".

**Estimated Time:** 2-3 weeks

**Plan:** - Week 1: Basic notification functionality. - Week 2: Integration with chosen service (Discord/SMS). - Week 3: Testing and refinement.

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### Medication Reminder System

**Purpose:** Provide voice reminders for medication schedules.

**Tasks:** - Design a medication schedule (JSON/CSV). - Implement reminder script with time-checking. - Integrate with voice assistant (e.g., "What's my medication today?").

**Estimated Time:** 2-3 weeks

**Plan:** - Week 1: Schedule structure. - Week 2: Script development. - Week 3: Integration with voice assistant.

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### Sleep Alarm & Custom Reminders

**Purpose:** Offer daily routines like sleep alarms or custom reminders.

**Tasks:** - Develop alarm scheduling. - Integrate with voice assistant for setting and triggering alarms.

**Estimated Time:** 2 weeks

**Plan:** - Week 1: Alarm system development. - Week 2: Voice assistant integration.

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## Hardware Integration & Testing

**Purpose:** Deploy and test all modules on Raspberry Pi with the physical rover.

**Tasks:** - Transfer code from laptop to Raspberry Pi. - Test modules: camera, microphone, speaker, motor driver. - Debug performance issues.

**Estimated Time:** 3 weeks

**Plan:** - Week 1: Raspberry Pi environment setup. - Week 2: Module deployment and testing. - Week 3: Full system integration.

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## Documentation & Reporting

**Purpose:** Finalize project documentation, user manual, and demonstration materials.

**Tasks:** - Compile user manual (PDF/DOCX). - Collect screenshots and logs. - Write final report with module explanations and testing results.

**Estimated Time:** 2 weeks

**Plan:** - Week 1: Collect materials and initial draft. - Week 2: Final editing and demonstration prep.

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## Recommended Timeline

Week	Task
1	Emergency Call (basic)
2	Medication Reminder implementation
3	Sleep Alarm development
4	Emergency Call integration
5	Voice assistant integration for reminders
6	Raspberry Pi setup
7	Hardware testing

Week	Task
8	Final documentation

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This plan ensures a structured approach to completing the Elder Care Rover Project and allows for thorough testing and integration at each step.