ErgoChef+

Cook smarter, Not harder

Introduction and Background

Cooking involves repetitive and **physically demanding actions** such as bending, chopping, stirring, and prolonged standing. These movements contribute to **ergonomic stress**, including musculoskeletal strain and reduced efficiency. Existing smart kitchen tools typically automate tasks but do not address posture or ergonomic health. Users have varied workflows and physical needs, making a flexible, user-centric solution necessary. ErgoChef+ aims to integrate **AI and sensing technologies** to improve comfort, safety, and efficiency in everyday cooking.

Problem Statement

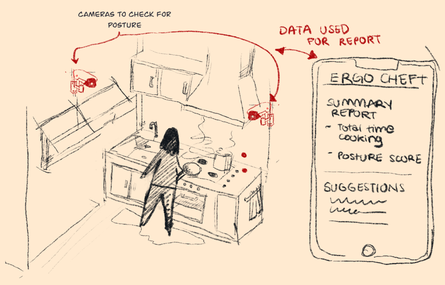
"Many home cooks and professionals experience discomfort, fatigue, and musculoskeletal issues due to repetitive motions, awkward postures, and long periods of standing. Current kitchen designs and tools do not address micro-repetitive movements or provide ergonomic guidance."

Objectives

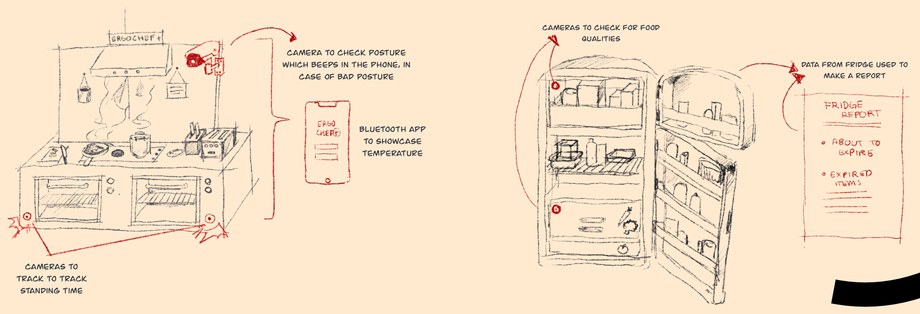
- Identify pain points
- Assess user behaviour
- Design an AI system that detects poor posture and provides tailored ergonomic guidance

Design Process & Iterations

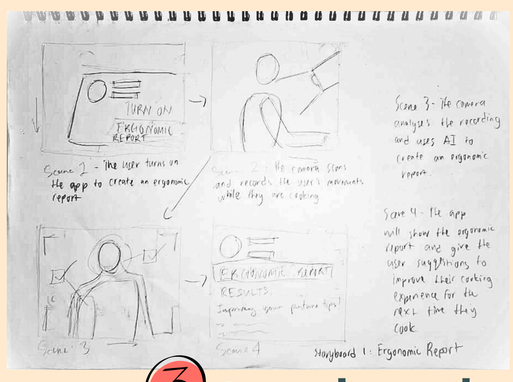
1 Surveys + Interviews

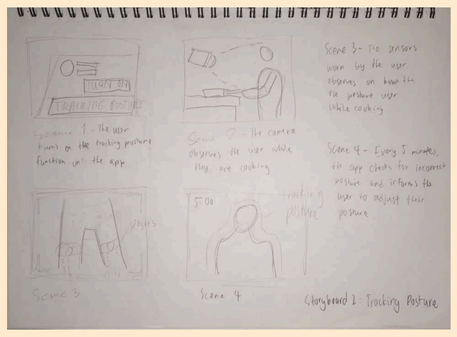


2 Sketches

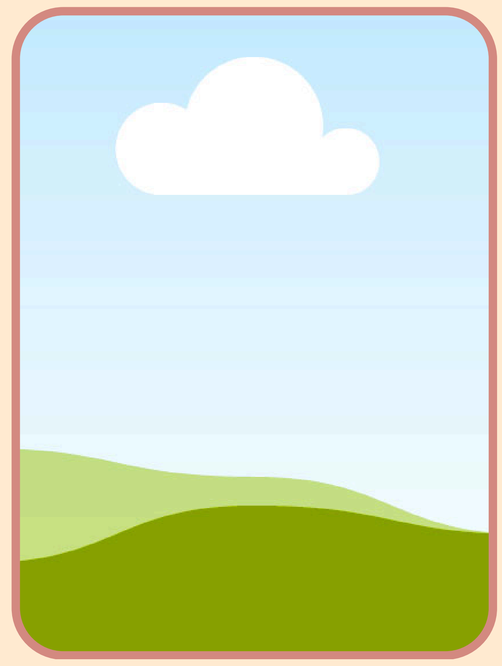


3 Storyboards





4 Final Design



Value Proposition

- AI-driven posture detection and ergonomic feedback.
- Non-intrusive reminders and personalised ergonomic reports.
- Adapts to diverse user needs and cooking contexts.

Benefits to Users and Society

- Reduces risk of musculoskeletal disorders.
- Improves comfort, efficiency, and long-term posture habits.
- Enhances productivity and efficiency in home and professional kitchens.
- Inclusive for different ages, abilities, and kitchen setups.

Conclusion

ErgoChef+ positions itself as a non-intrusive, **AI-enabled ergonomic assistant** that **reduces strain, enhances comfort, and improves cooking efficiency.** By combining **real-time feedback, personalized posture analysis, and user-friendly interfaces,** the system promotes healthier kitchen practices and aligns with the goals of Human-Computer Interaction and in the end, improving human well-being through design and technology.

Logo

ERGOCHEF+

Future Potential

- Can be integrated into smart kitchen appliances, expanding its market through manufacturers and IoT ecosystems.
- Offers opportunities for subscription-based ergonomic analytics and posture insights.
- Applicable to professional kitchens, healthcare, and senior-care environments.
- Scalable across smart home ecosystems with voice assistants, sensors, and AI devices.

Visit our website to learn more

Scan to see a demo

Test out the prototype here:
https://tinyurl.com/ergochef

Meet the team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