

CHAPTER I

INTRODUCTION

1.1. General Overview

The digital landscape is currently experiencing a profound shift where a mobile application's success is no longer defined by its technical features alone, but by the quality of the emotional and functional connection it builds with its users[1]. As mobile commerce (m-commerce) matures into a multi-billion dollar industry[2], **User Interface (UI) and User Experience (UX)** have evolved from being “visual additions” to the very core of business strategy[3]. In a high-stakes digital market, an interface that feels cluttered or a user journey that is friction-heavy leads to immediate user abandonment. Therefore, designing a mobile interface is an exercise in empathy, clarity, and precision[4].

The development of **Kalana Commerce** emerges as a response to a critical gap in the current e-commerce ecosystem: the lack of a “smart” and “conscious” shopping experience [5]. While major marketplace platforms focus on high-volume transactions, they often overlook the user's post-purchase reality. Users frequently struggle with “inventory blindness” there is the inability to track what they have at home and the freshness of what they buy which leading to unnecessary repurchasing and significant household food waste. This is not just a personal inconvenience but a global environmental and economic crisis[6].

This study focuses on the **Design and Development of the UI/UX for Kalana Commerce** the Refactory x AMIKOM Hackathon. The project is centered on transforming complex household inventory data and AI-driven insights into a minimalist, accessible, and high-performing mobile interface. Through a user-centered approach, Kalana Commerce aims to redefine the shopping journey where it is moving from mindless consumption to intentional and sustainable procurement.

1.2. Problem Formulation

To ensure the design effectively addresses user needs, this research identifies the following key problems:

1. **Visual Simplicity In Complexity:** How can a mobile interface for Kalana Commerce be designed to handle complex features like AI freshness tracking while maintaining a clean, minimalist, and modern aesthetic that reduces user cognitive load?
2. **User-Centered Problem Solving:** How can the **Design Thinking** framework be applied to ensure the UI/UX design directly addresses the core user pain point of household food waste?
3. **Intuitive Interaction Patterns:** What are the most effective interaction patterns and visual affordances to display “Smart Cart” recommendations so that they feel natural and helpful rather than intrusive?

1.3. Scope of Study

To maintain a clear focus on the UI/UX design process, the boundaries of this study are defined as follows:

1. **Design Framework:** The study is strictly guided by the **Design Thinking** analysis (Empathize, Define, Ideate, Prototype, and Test).
2. **Tooling:** All design activities, including low-fidelity wireframes, high-fidelity UI design, and interactive prototyping are conducted exclusively using Figma.
3. **Design Assets:** The creation of a comprehensive **Design System**, encompassing specialized color palettes, typography scales, iconography, and a library of reusable UI components (Lucide Icons).

1.4. Research Objectives

Based on the identified problems, the objectives of this study are:

1. To design a modern, responsive, and intuitive user interface for the Kalana Commerce mobile application that supports efficient product discovery, cart

management, and purchase preparation, while adhering to mobile-first and minimalist design principles.

2. To develop a structured UI/UX design system, including layout grids, reusable components, and interaction patterns, that ensures visual consistency, accessibility, and ease of use across all application screens.
3. To translate AI-driven concepts such as freshness indicators and smart restock recommendations, into clear and understandable interface elements, enabling users to make informed decisions related to household grocery management and food waste reduction through visual hierarchy and interaction design.

