Project Title - Prototype Project 1: Storyboard and Wireframes

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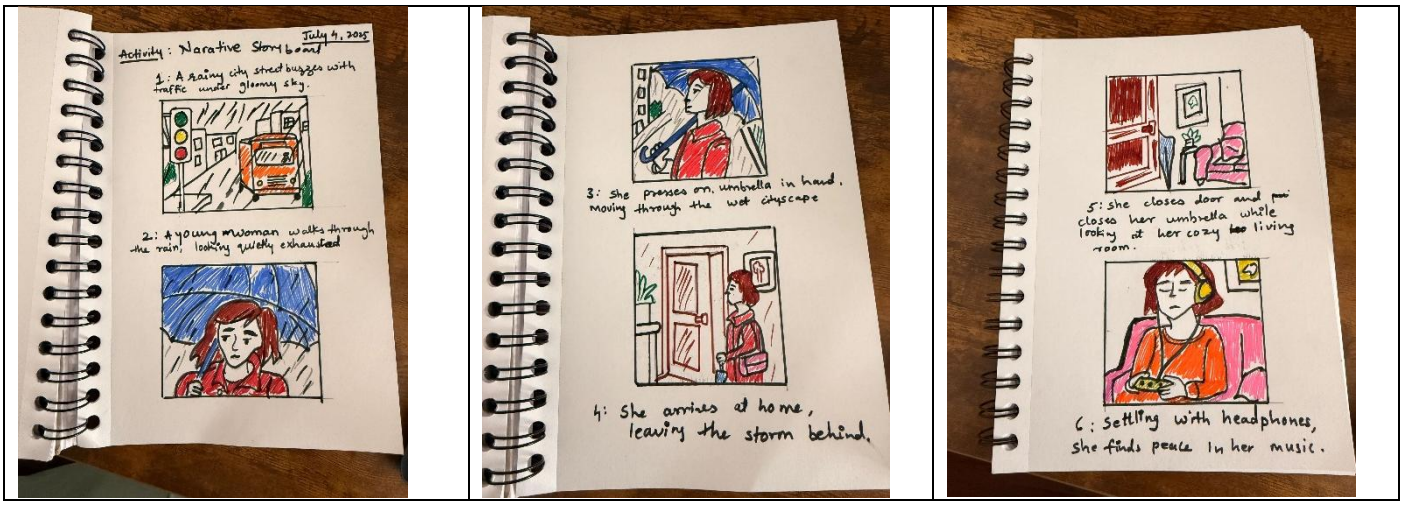
1. **Narrative Storyboard**

Application – Peace After the Storm

Description – This 5-panel lo-fi storyboard helps users by visually capturing a relatable emotional journey from the stress of a rainy day to the comfort of a quiet moment at home. Through simple, gentle imagery, it encourages self-care, emotional awareness, and mindfulness. The progression from discomfort to peace reassures viewers that it's okay to feel overwhelmed and that calm can be found in everyday routines like listening to music. Its soft aesthetic and minimal storytelling offer a sense of warmth, making it both comforting and easy to connect with.

Storyboard –



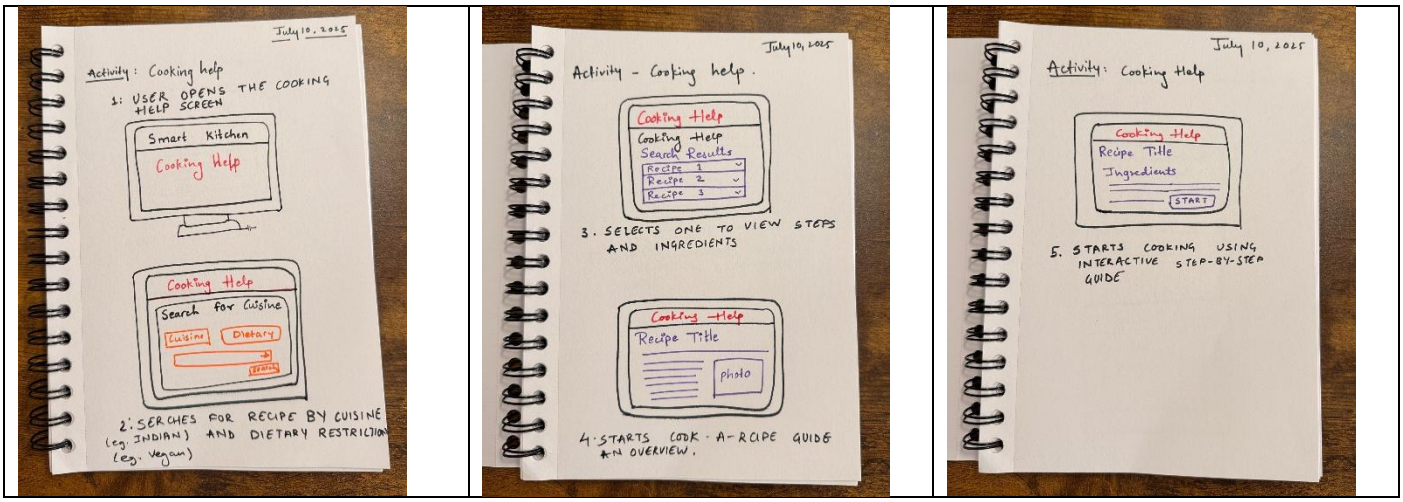
2. **Sketched Wireframes**

Chosen Topics – Cooking Help, Refrigerator Management, Smart Appliance Management and Energy Monitoring

Drawing tools used – Pencil, sketch pens, sketch book

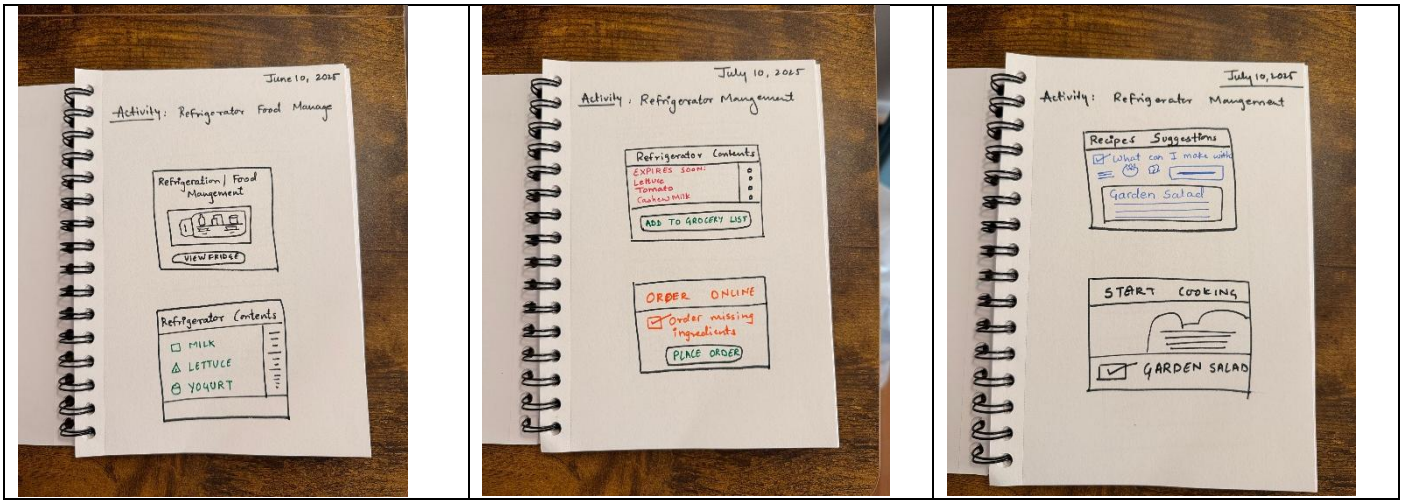
Application 1 – Cooking Help

Wireframe & Description – These hand-drawn sketches illustrate the user journey for the Cooking Help feature in a Smart Kitchen system. The flow begins with the user opening the Cooking Help screen, followed by a search interface where they can filter recipes based on cuisine (e.g., Indian) and dietary preferences (e.g., vegan). Once the user initiates the search, a list of matching recipes is displayed. The user selects one to view its overview, including the recipe title, ingredients, and a photo. The final screen allows the user to begin cooking through an interactive, step-by-step guide designed to make the cooking experience smoother and more intuitive.



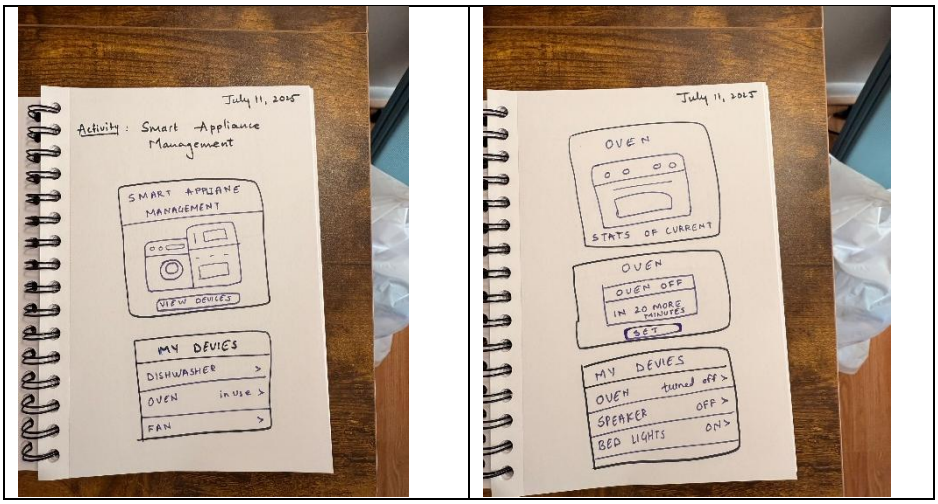
Application 2 – Refrigerator Management

Wireframe & Description – The Refrigerator Management storyboard outlines a smart system that helps users track what's inside their fridge, manage expiring items, and make grocery planning easier. It starts with a clear view of current items, then alerts users about soon-to-expire foods. Users can add these to a grocery list or order ingredients directly online. The system also recommends recipes based on available items and provides step-by-step cooking assistance, making daily meal planning more efficient and stress-free.



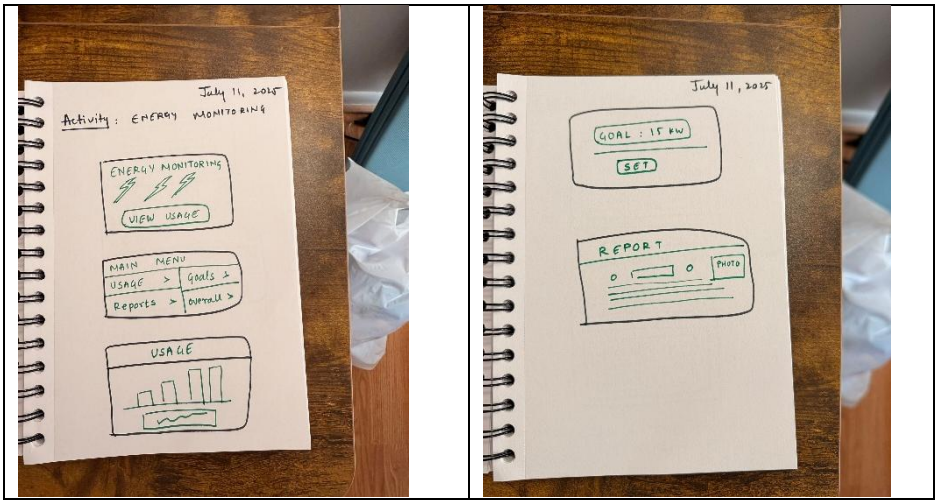
Application 3 – Smart Appliance Management

Wireframe & Description – The wireframes show a simple and intuitive Smart Kitchen interface focused on appliance management. One screen displays oven controls with a timer and status update, along with a list showing the status of other devices like speakers and bed lights. Another screen offers a “Smart Appliance Management” dashboard with options to view and control devices like the dishwasher, oven, and fan.



Application 4 – Energy Monitoring

Wireframe & Description –The wireframes illustrate a user-friendly interface for Energy Monitoring in a smart kitchen setup. The main screen allows users to view energy usage, set consumption goals (e.g., 15 kW), and track progress visually through graphs. A main menu provides access to different sections like Usage, Goals, Reports, and Overall stats. Users can also generate reports and add photos for context. The design is minimal, focused on clarity and efficient navigation, suitable for a grayscale wireframe format.



3. **Digital Wireframe**

Chosen Topics – Smart Kitchen, Food Management, Smart Appliance Management and Energy Monitoring

Drawing tools used – Canva
Interactive Elements Used – Action button (Start Recipe), Checkbox (for dietary filters), Filter Option, Numbered List, Text field (search bar) and Timer

Application 1 – Smart Kitchen (Cooking Help)

Task Introduction – The Cooking Help module allows users to explore recipes based on cuisine and dietary filters. It guides them from browsing to detailed cooking instructions with interactive steps.

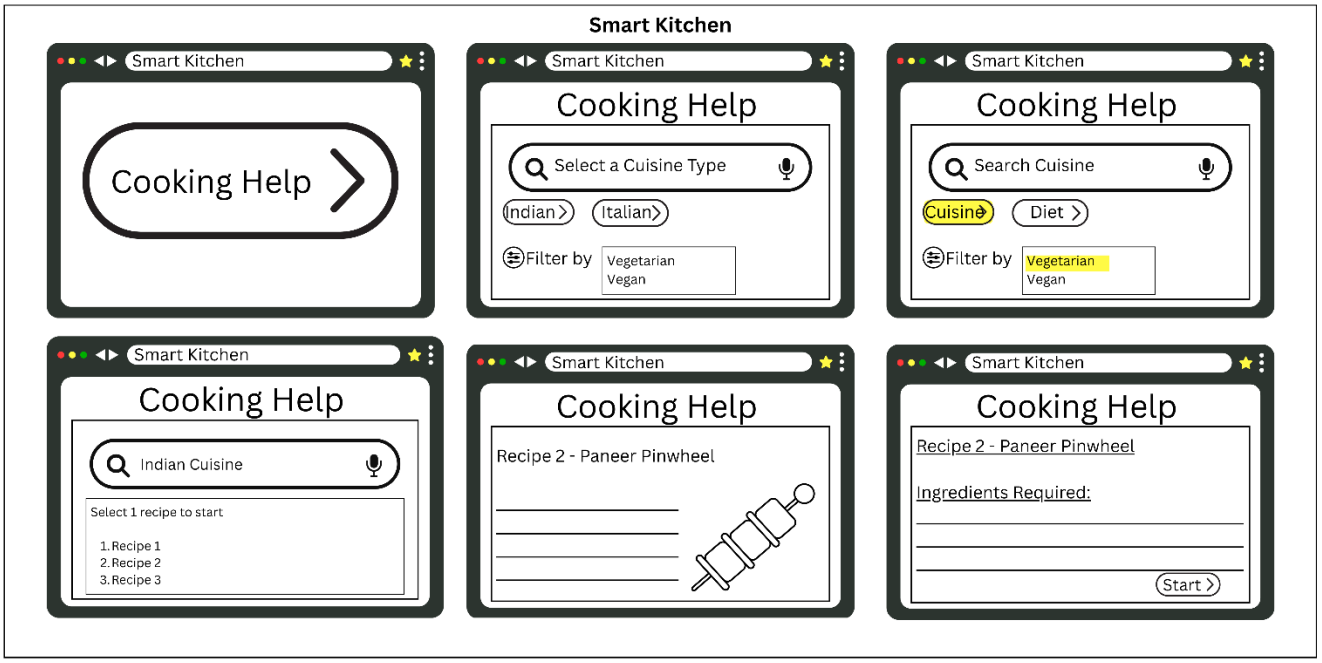
Wireframe & Description – This wireframe illustrates the flow of a Smart Kitchen app that helps users find and follow recipes. It begins with a “Cooking Help” button, followed by options to select a cuisine (e.g., Indian, Italian) and apply filters like “Vegetarian” or “Vegan.” Once a cuisine is chosen, users can browse a list of recipes and select one—for example, “Paneer Pinwheel.” The final screens display the recipe details and ingredients, leading to a “Start” button to begin cooking instructions. Canva was used to create this wireframe because it offers a quick, user-friendly way to design clean, organized layouts without needing advanced design software.

Interactive Elements Description –

- Checkboxes: Filter options for dietary needs (e.g., Vegan, Gluten-Free)
- Text Field: Recipe search bar
- Drop-down Menu: Select cuisine (Indian, Italian, Chinese)
- Action Button: “Start Cooking” initiates step-by-step guide
- Numbered List: Displays recipe steps

Design Pattern Discussions –

- Strategy: Dynamically recommends recipes based on selected filters.
- Factory Method: Creates recipe view screens based on selected cuisine and dish.
- Command: Executes actions like “Add to Grocery List” or “Start Cooking Session.”



Task Coordination = All modules use a shared navigation bar, grayscale visuals, and consistent iconography. The Cooking Help interface applies the same side-panel filter format seen in Refrigerator Management.

Application 2 – Food Management (Refrigerator Management)

Task Introduction – This module lets users view fridge contents, receive alerts for expiring items, and generate grocery lists. It also links with Cooking Help for recipe recommendations.

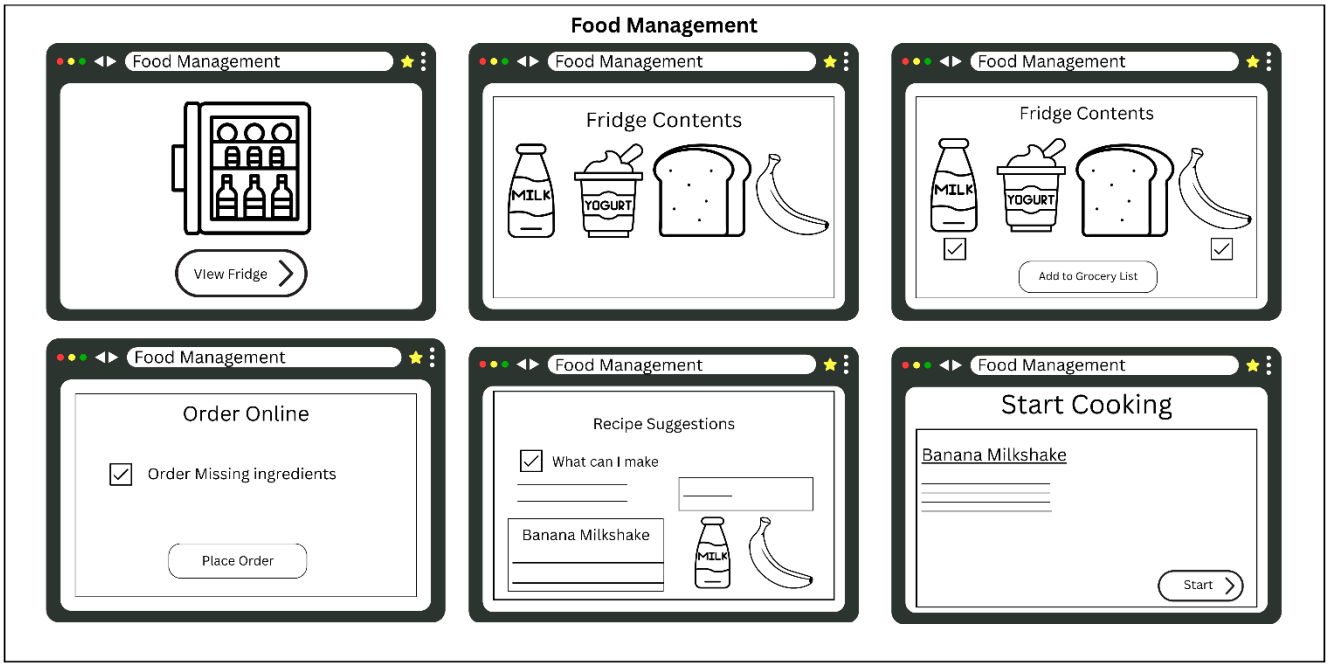
Interactive Elements Description –

- Checkboxes: Select items to order or add to grocery list
- Slider: Adjust freshness filter (e.g., expiry within 3 days)
- Action Button: “View Recipes” based on available ingredients
- Scrollable Content: Item list scrolls vertically
- Text Entry: Add new items manually

Design Patterns Discussion –

- Observer: Tracks inventory changes and triggers alerts.
- Decorator: Adds visual tags like “Expiring Soon” to item cards.
- Facade: Simplifies multiple operations (view items, create grocery list, find recipes) under one interface.

Wireframe & Description – This wireframe showcases the flow of a Food Management app that helps users track fridge contents, generate recipes, and manage grocery shopping. It starts with a “View Fridge” option, showing available items like milk, yogurt, and banana. Users can select items to add to a grocery list or order missing ingredients online. Based on current fridge contents, the app suggests recipes (e.g., Banana Milkshake), and once selected, it provides step-by-step cooking instructions. Canva was used to create this wireframe for its ease of use, quick layout design features, and ability to visually represent UI ideas clearly even for those without technical design expertise.



Task Coordination – The item cards use the same structure and layout as recipe cards in Cooking Help. Shared visual elements like icons and list formatting maintain cohesion.

Application 3 – Smart Appliance Management

Hritika Kucheriya Design Prototyping Project 1

Task Introduction – This module displays the status of all connected kitchen appliances and lets users control them individually or as a group through an interactive dashboard.

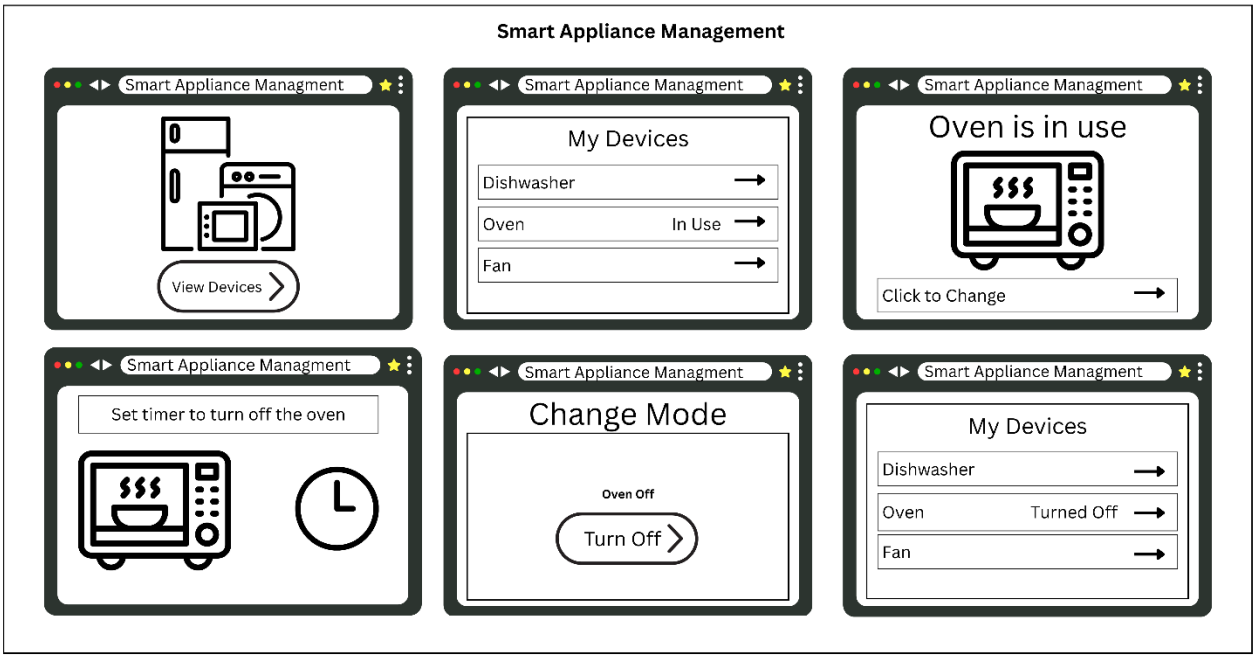
Interactive Elements Description –

- Radio Buttons: Toggle device modes (e.g., Oven: Bake/Grill)
- Timer Field: Set cooking duration
- Action Buttons: “Turn On,” “Turn Off,” “Set Mode”
- Checkboxes: Select multiple appliances for batch control
- Status Indicators: Live updates on device status

Design Patterns Discussion –

- Mediator: Coordinates device communication behind the dashboard.
- Command: Turns devices on/off, adjusts timers.
- Adapter: Integrates legacy appliances with new control schema.

Wireframe & Description – This wireframe outlines the flow of a Smart Appliance Management app that allows users to monitor and control home devices like ovens, dishwashers, and fans. It starts with a “View Devices” screen, leading to a list of appliances and their current status. The user can view which device is in use (e.g., Oven), set a timer, and change its mode (like turning it off). Once the change is made, the updated status is reflected on the device list. Canva was used to create this wireframe due to its simplicity, visual clarity, and quick design capabilities ideal for presenting clean and understandable user interface concepts without requiring advanced tools.



Task Coordination – Appliance status cards match the formatting of fridge item and recipe displays. Button placement and typography are consistent with other modules.

Application 4 – Energy Monitoring

Task Introduction – This task helps users track their energy usage, set consumption goals, and generate visual reports to encourage mindful appliance usage.

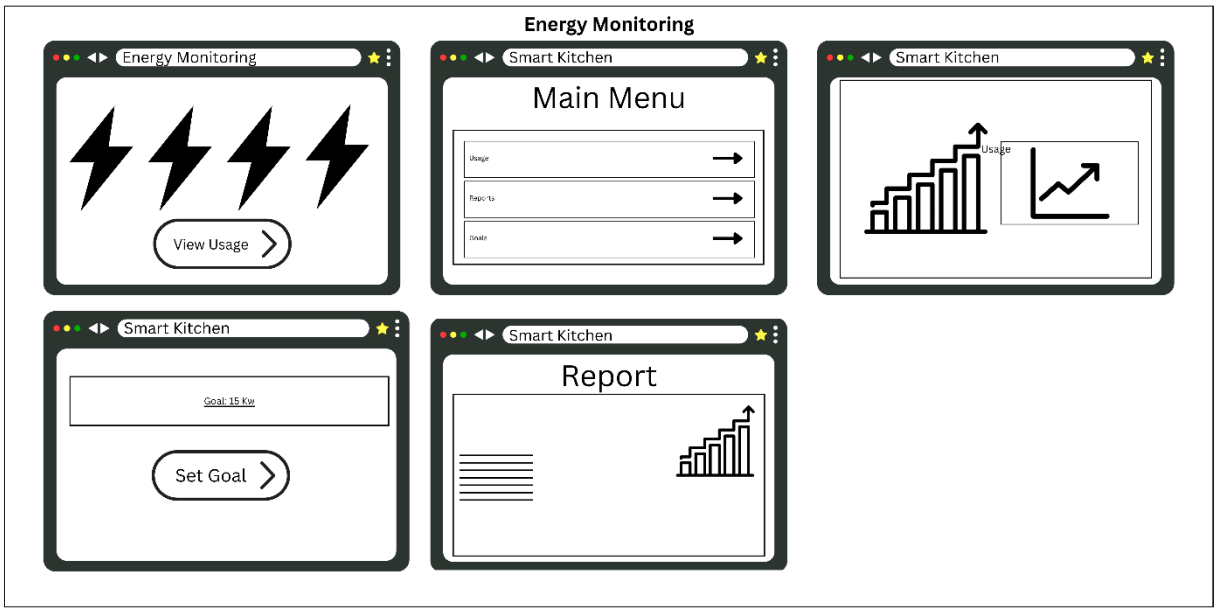
Interactive Elements Description –

- Graph Slider: Adjust date range on usage charts
- Drop-down Menu: Select report type
- Action Button: “Generate Report” visualizes current data
- Checkboxes: Select appliances to monitor
- Text Field: Set custom energy goal (e.g., 15 kW)

Design Patterns Discussion –

- Observer: Tracks real-time energy data changes
- Builder: Constructs detailed report from selected parameters
- Singleton: Centralized report manager ensures consistent view

Wireframe & Description – This wireframe represents the user flow for an Energy Monitoring module within a Smart Kitchen system. It starts with a “View Usage” screen, leading to a main menu where users can check energy usage, reports, and set consumption goals. Visual graphs and charts display usage trends, while a separate screen allows users to set specific energy goals (e.g., 15 kW). A final report screen summarizes energy performance in both visual and text formats. Canva was used to design this wireframe because it provides an intuitive layout system, easy-to-use icons, and clean visuals making it ideal for quickly creating and communicating UI flows without needing advanced design tools.



Task Coordination – This module extends the layout seen in Appliance Management by using similar data cards and sliders. Graphs and filters mimic styles used in Cooking Help and Refrigerator Management.

Content Fidelity Matrix

Content	Very Low Fidelity	Low Fidelity	Medium Fidelity	High Fidelity	Very High Fidelity
Information Design			✓		
Interaction Design			✓		
Visual Design & Branding		✓			
Editorial Content		✓			

Self-Critique and Reflection – The prototype fulfils the user goals effectively, especially in simplifying task flows and interactions. However, future iterations could enhance visual feedback for error states and offer more user guidance on energy goal tracking. Overall, consistency and functionality were well-maintained."