

SmartSpace — Comprehensive App Plan

1. General Overview

SmartSpace is an iOS application designed to help students organize research notes and enable professionals to manage and visualize complex knowledge effectively. It provides intelligent workspaces (**Spaces**) where users can upload files, and the app's AI dynamically generates informational blocks to summarize, analyze, and visualize content.

The app is built with **SwiftUI (iOS 26)** and follows Apple's **Liquid Glass** design language for a sleek, modern, and immersive experience.

2. Main Screen

Spaces are displayed in a **scrollable grid layout**, allowing users to view multiple workspaces at once. Users can toggle between **grid** and **list** views and **filter or sort** Spaces by name, creation date, or type for easier navigation.

When the app opens, the user is greeted by this main screen, which showcases all existing Spaces as tiles containing the title, type, and a small visual preview of the content.

Bottom Panel

- A **“+” button** centered at the bottom opens a pop-up window for creating a new Space.

New Space Creation Window

- **Name** — the user enters a Space name. *(Validation ensures no duplicate names.)*
 - **Type** — select the Space type from the following list:
 - Learning
 - Language Learning
 - Time Management
 - Information Compression
 - Research Assistant *(for analytical work)*
 - Creative Writing *(for text-based projects)*
 - **Model Selector** — choose between **On-device** or **Private Cloud Compute**.
 - *Note: Selecting On-device disables automatic image generation.*
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3. Space Screen

Users can import files from multiple sources — the iOS Files app, iCloud Drive, local storage, or by pasting text directly into the input field. This flexible approach accommodates different workflows.

After creating a Space, users are prompted to **add files** via the import menu. Selecting *"Skip for now"* takes them to an empty Space.

Empty State

If no data is present, the screen displays the message: *"You need to add some information to continue."*

Layout Structure

Header:

- Space title (centered)
- **Back button** (left)
- **Archive button** (right) — opens the file manager for the current Space

Blocks:

- Interactive blocks of sizes **1x1**, **1x2**, or **2x2**
- Each Space type defines its own set of available blocks

Footer:

- **AI Query Field** — Intelligence icon with text *"Ask Apple Intelligence"* (occupies most of the footer)
 - **Search Icon** — magnifying glass (right side) opens a search field for content lookup
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4. Block Types

◆ Summary (1x2, 2x2)

- Provides a concise overview of the project
- Displays: title "Summary" + generated text
- Non-interactive

◆ Flashcards (1x1)

- Helps users learn using flashcards
- Displays: title "Flashcards" + icon with three cards
- Expands to full screen upon tapping
- Supports flashcards for all files or specific topics

◆ MainQuestion (1x2)

- Focuses on a central research question
- Displays: question mark on the left + short question on the right
- Expands to show topic-based blocks (1x2) that lead to detailed answers

◆ **KeyTerms (1x1, 1x2)**

- Extracts and explains key terms (4+ terms required)
- Displays fragments like “term — explanation...”
- Expands to reveal full topic explanations

◆ **Timeline (1x2)**

- Visualizes events or stages chronologically
- Displays: a timeline resembling TestFlight’s event layout
- Up to three items shown; others expand on tap

◆ **MindMap (2x2)**

- Visualizes relationships between topics
- Nodes can be dragged and rearranged interactively

◆ **Quiz (1x1)**

- Generates short quizzes (3–5 questions) from content
- Available in Learning and Language Learning Spaces

◆ **Insights (1x1)**

- Displays major insights or trends from documents
- Updates automatically when new files are added

5. Model Operation Modes

Mode	Description
Private Cloud Compute	Full-featured mode with image generation and advanced processing capabilities.
On-device	Runs locally on iPhone; no image generation; optimized for privacy and offline use.

6. Space Types

Space Type	Available Blocks
Learning	Summary, Flashcards, MainQuestion, KeyTerms, Insights
Language Learning	Flashcards, Quiz, Summary, KeyTerms
Time Management	Timeline, Summary, KeyTerms, Insights

Space Type	Available Blocks
Information Compression	Summary, KeyTerms, MindMap
Research Assistant	Summary, MainQuestion, Timeline, Insights
Creative Writing	Summary, MindMap, Flashcards
Productivity Dashboard	Timeline, Insights, KeyTerms, Summary
Research Planner	Timeline, Insights, KeyTerms, MainQuestion