

Cloud-Mind Planner – Comprehensive Design Brief

CONCEPT

The Cloud-Mind Planner is a personal productivity system designed for ADHD/ASD cognitive patterns. Its purpose is to transform overwhelming goals into visually intuitive, emotionally motivating experiences. Your mental landscape becomes a dynamic sky of living clouds—each cloud representing something that takes up mental bandwidth. As you clear tasks, clouds dissolve, revealing sunlight that reflects clarity, momentum, and emotional progress.

The app avoids numbers and rigid progress bars. Instead, it uses atmospheric feedback: brightening skies, shifting hues, smoother cloud motion, or stormier neglected areas. This makes emotional progress visible, not just logical or quantified. It reduces cognitive load by automatically organizing everything, allowing users to explore their “mind-sky” instead of managing folders or lists.

TOP USE CASES

1. Breaking large, overwhelming goals into approachable clouds.
2. Tracking progress without numbers, pressure, or strict deadlines.
3. Maintaining motivation using environmental feedback (sunlight, cloud dissolves).
4. Reducing distraction using Focus Mode to isolate tasks or milestones.
5. Identifying neglected areas through stormy cluster behavior.
6. Quick mobile-friendly daily updates without friction or overwhelm.

WORLD STRUCTURE

- One global sky representing a single mental ecosystem.
- One overarching goal: clear the sky.
- Milestones = large cloud clusters.
- Tasks orbit milestones.
- Subtasks appear inside tasks during focus mode.

VISUAL MODEL

- Clouds are geometric liquid-style blobs (Pixi.js).
- Milestones: largest radius, define local cluster centers.
- Tasks: size scales with subtask count.
- Subtasks: displayed only in focus mode.
- Hovering magnifies clouds (1.15x), with subtle neighbor reaction.

PHYSICS MODEL

- Force-directed, gentle motion.
- Task orbit radius: 160–220px around milestone center.
- Slight repulsion prevents overlap.
- Heavy damping prevents jitter.
- Subtasks have no physics; positioned inside task cloud.

CAMERA, ZOOM & FOCUS MODE

- Overview mode fits all milestones in view, auto-reflowed on resize.
- Clicking a milestone zooms to ~1.6x, a task to ~2.0x.
- Duration: 350–450ms, ease-in-out.
- Non-relevant clouds are blurred (5–10px) and faded to alpha 0.3.
- Clicking background returns to overview (300ms).
- Subtasks appear inside the focused task.

COMPLETION BEHAVIOR

- Binary completion only.

- Subtask completion shrinks and fades parent task.
- All subtasks complete → task dissolves (300–400ms).
- All tasks complete → milestone dissolves (500–700ms).
- Dissolves include subtle particles and soft sound cues.

DYNAMIC SUNLIGHT & WEATHER SYSTEM

Variables:

- completionRate (tasks completed in past 48h)
- totalImportanceOutstanding
- neglectScore per milestone (time since last activity × importance load)

Sun brightness formula:

`sunBrightness = clamp(0.2 + 0.6*M - 0.4*L, 0, 1)`

- M = momentum (recent completion velocity)
- L = outstanding importance load

Stormy behavior:

- Neglected clusters grow darker, edges rougher, slight wobble amplitude increase.

INTERACTION MODEL

Plus-cloud Button

- Click: modal for Milestone/Task/Subtask.
- Drag: contextual creation:
 - Empty sky → Milestone
 - Milestone → Task
 - Task → Subtask

Editing

- Single-click: focus mode.
- Right-click: edit modal.
- Delete via modal or drag cloud to edge with danger-zone indicator.

MODALS

Milestones:

- title, description, importance, optional due date.

Tasks:

- title, description, tags, importance, optional due date.

Subtasks:

- same as tasks but simplified.

SETTINGS

- Sound toggle.
- Night mode.
- Export/Import JSON.

TECH STACK

- React, TypeScript, Vite.
- Tailwind CSS.
- Pixi.js for clouds and effects.

BACKEND

- Express REST API.
- SQLite + Prisma or Drizzle.
- Autosave on every change.
- No authentication (localhost only).

DOCKER

- Multi-container setup:
 - frontend static server
 - backend Node.js API
 - SQLite volume container

REST API SPECIFICATION

Milestones:

GET /milestones

GET /milestones/:id

POST /milestones

PATCH /milestones/:id

DELETE /milestones/:id

Tasks:

GET /milestones/:id/tasks

POST /milestones/:id/tasks

PATCH /tasks/:id

DELETE /tasks/:id

Subtasks:

GET /tasks/:id/subtasks

POST /tasks/:id/subtasks

PATCH /subtasks/:id

DELETE /subtasks/:id

Completion:

POST /tasks/:id/complete

POST /tasks/:id/uncomplete

POST /subtasks/:id/complete

POST /subtasks/:id/uncomplete

Sky Tree:

GET /sky

DATABASE SCHEMA

milestones(id, title, description, importance, dueDate, createdAt, updatedAt)

tasks(id, milestoneId, title, description, tags, importance, dueDate, completed, createdAt, updatedAt)

subtasks(id, taskId, title, description, tags, importance, dueDate, completed, createdAt, updatedAt)

metrics(id=1, totalCompletedCount, lastCompletionAt, momentumScore, sunBrightness)

ANIMATION CONSTANTS

- Hover: 1.15x main, 1.05x neighbors.
- Dissolve: 300–700ms.
- Focus zoom: 350–450ms.
- Easing: cubic ease-in-out.

GUIDING PRINCIPLES

- Emotion over numbers.
- Calm minimalism.
- Reduce overwhelm.
- Make progress feel rewarding.

Ready for Claude Code implementation.