**1️⃣ User Journey Flow**

1. **Login & Setup**
   * User opens app → logs in with credentials.
   * Inputs:
     + Subject/topic they are studying.
     + Tabs/sites they’ll be using (e.g., LeetCode, VSCode, Google Docs).
2. **Cognitive Monitoring Starts**
   * Cogniflow detects:
     + Tab switches
     + Idle time (no keyboard/mouse)
     + Typing speed and activity patterns
   * Optional: Emotion detection via webcam (face-api.js), **with consent**.
3. **Fatigue & Stress Feedback**
   * Tracks cognitive load → generates **Focus Fatigue Meter**.
   * Suggests:
     + Micro-breaks
     + Breathing exercises
   * GPT adjusts tone:
     + Encouraging if stressed
     + Firm if distracted

**2️⃣ Deep Thinking & Idle Detection**

| **Situation** | **System Action** | **User Response** | **Result** |
| --- | --- | --- | --- |
| No keyboard/mouse input for **5 minutes** | Show toast: “Are you distracted or thinking deeply?” | **Thinking** | Start Thinking Timer |
|  |  | **Distracted** | Log distraction event |
|  |  | **No response for 30s** | Auto mark as distracted |
| While “thinking timer” is active | Display subtle timer floating in corner | User clicks “Stop Thinking” | Stop timer → log “Deep Thinking Phase” duration |

* Thinking timer → logs **deep study phases**.
* Idle without response → counts as **distraction**.

**3️⃣ Cognitive Momentum & Focus Scoring**

* Cogniflow calculates **Cognitive Momentum Score**:
  + Measures streaks of 20–25 min **focused intervals**.
  + Tracks:
    - Deep thinking phases
    - Active study phases
    - Distractions
* Gives **progress summary**:

“You maintained 3 deep-work streaks today! 🧩”

* Can visualize as **timeline bars**:
  + Green = Deep Thinking
  + Blue = Active coding/studying
  + Red = Distracted

**4️⃣ Optional Enhancements**

* **Emotion-Aware Feedback**
  + Detects frustration or stress → GPT modifies tone
* **AI Study Suggestions**
  + GPT suggests micro-adjustments:
    - “Take a 2-min break”
    - “Focus on problem-solving now”
* **Cross-Tab & Extension Integration**
  + Tracks distraction sites (YouTube, Social Media)
  + Adjusts focus score accordingly

✅ **In essence:**

1. App starts monitoring only after user logs in and specifies context.
2. Combines **activity + thinking detection + emotion feedback**.
3. Logs events with timestamps → **deep thinking, distraction, active study**.
4. Generates **real-time feedback** (toasts, timers, visual meters).
5. Computes **Cognitive Momentum / Focus Fatigue / Deep Work Streaks** → summarized in dashboard.