System Architecture Diagram Pseudocode

Function initializeHabitTracker():
       Load habit logs from persistent storage
       If no logs exist:
              Create empty log list
              Determine today's date in local YYYY-MM-DD format
Render calendar and streak display

Function getTodayDate():
       Read current device date
       Convert to local YYYY-MM-DD string
Return formatted date

Function markTodayComplete():
       today = getTodayDate()
       If a log entry exists for today:
              Set completed = true
       Else:
              Create new log entry with date = today and completed = true
       Save updated logs to persistent storage
       Recalculate streak
       Re-render calendar and streak display

Function toggleTodayCompletion():
       today = getTodayDate()
       If a log entry exists for today:
              Reverse its completed value
       Else:
              Create new log entry with date = today and completed = true
              Save updated logs
       Recalculate streak
       Re-render interface

Function calculateCurrentStreak():
       today = getTodayDate()
       streak = 0
       cursorDate = today
       While a completed log exists for cursorDate:
              Increment streak by 1
       Move cursorDate back by one calendar day
Return streak

Function generateCalendarView(month):
        Determine first day of month
        Determine last day of month
        Extend range to cover full weeks (including leading/trailing days)
        For each date in range:
                If date is in future:
                        Mark as future
        Else if log exists and completed is true:
                Mark as completed
        Else if date is before today:
                Mark as missed
        Else:
                Mark as pending
Render calendar grid