

522x Interface Review

Contents

- Ground rules & central questions
- Guidelines
- Scrolling
- Graphs
- Other thoughts
- Sensor workflow

Ground rules

- This isn't about criticizing past decisions
- Keep feasibility discussions light until we're done
- Do bring up forgotten factors and edge cases

Central questions

- What can we do to improve the interface in general?
- Does the Sensor module have too many user inputs (i.e. is it too much work to navigate)?
- Are the graphs usable/readable?

Ten usability guidelines

(J. Nielsen)

- Visibility of system status
- Match between system and the real world
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetic and minimalist design
- Help users recognize, diagnose, and recover from errors
- Help and documentation



People find
my punditry
annoying,

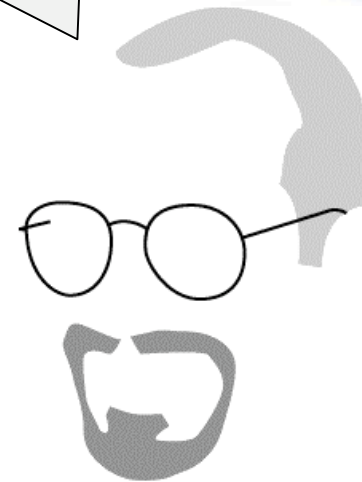
but apart from
my sweeping
generalizations,
I'm on to something

Eight task-centered guidelines

(J. Plummer)

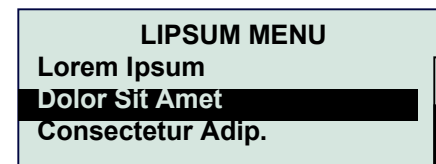
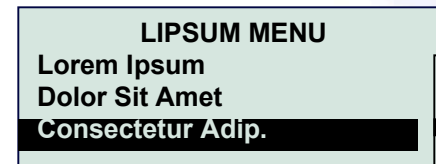
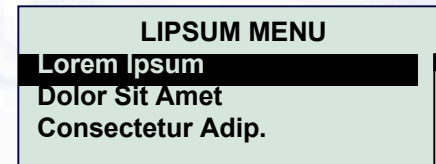
- Anticipate user tasks
- Expose system state
- Provide clear affordances
- Anticipate problems, and lead the user to the solution
- Reduce the time and/or number of operations required to complete tasks (especially gating tasks)
- Reduce ambiguity; enforce useful consistency
- Provide consistent/useful/meaningful defaults
- Judiciously increase “power”

Transfer
workload from
the users to
the developers



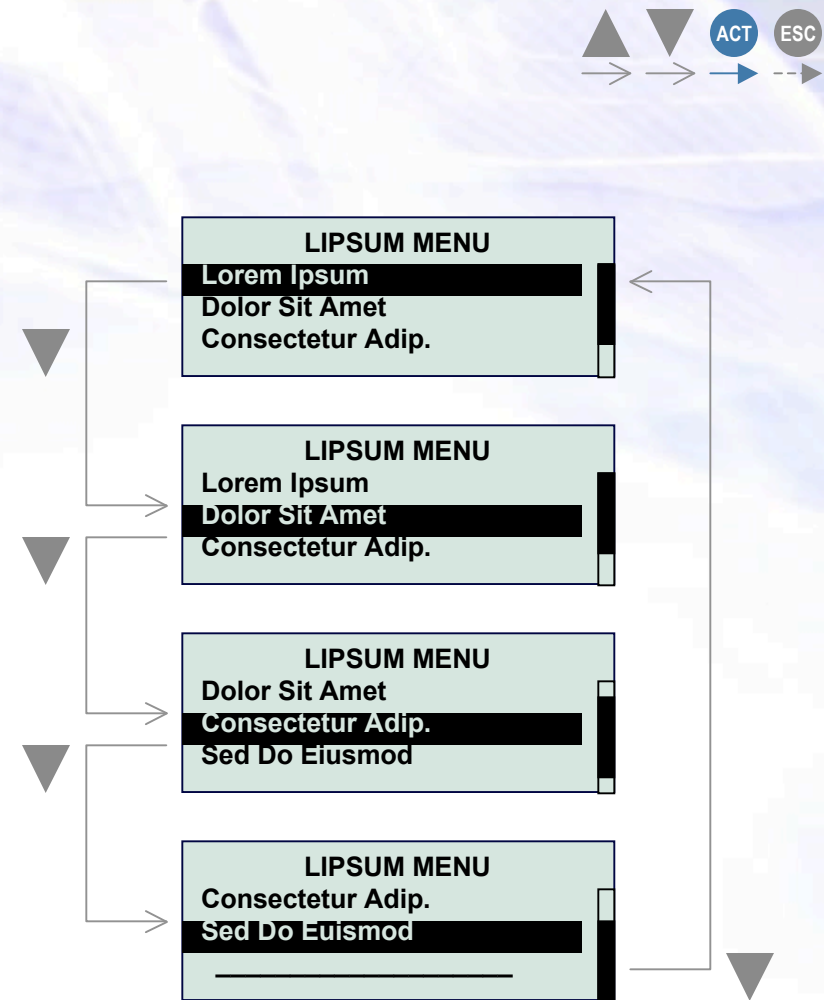
Scrolling...

- Four questions to answer
 - ✓ Can I scroll?
 - ✗ How far is there to go?
 - How far along am I?
 - ✗ What is next?
- Scrolling-related cues currently in use
 - Scrollbar presence/absence
 - Thumb position
 - Thumb movement
- Additional available cues
 - Thumb size
 - Cursor movement
- These apply to both menu and message scrolling



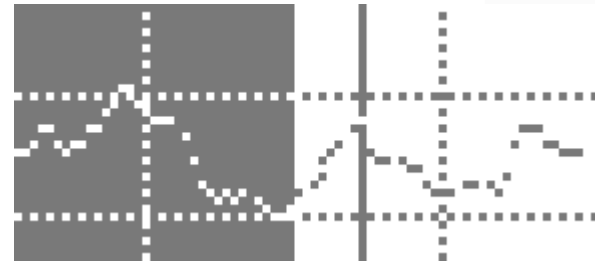
Scrolling for power

- Incorporating additional cues can add power
 - How far is there to go?
 - Thumb size suggest extent of off-screen content
 - How far along am I?
 - Thumb position together with thumb size suggest position in context
 - What is next?
 - “Scrolling from the middle” can add power by allowing read-ahead
- It is also worthwhile to add wrap-around
 - But we must signal where the bottom is



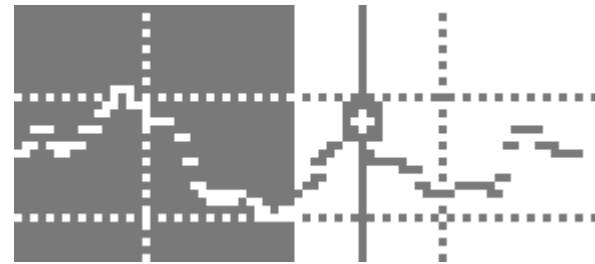
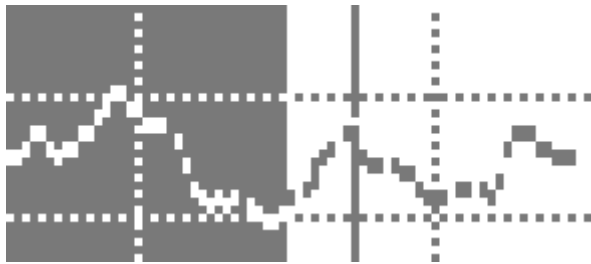
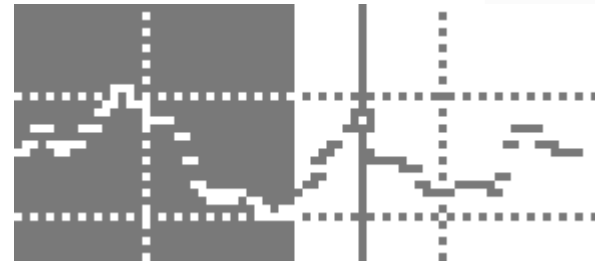
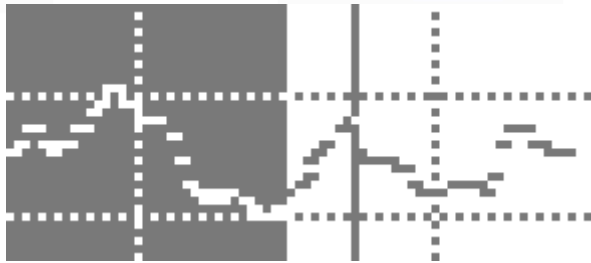
Graphs...

- Existing questions for graphs to answer
 - What was the value?
 - When in time?
 - How good/bad in relation to thresholds and other readings?
- Implied requirements
 - Indicate position and magnitude
 - Show data clearly
- Needs
 - Strengthen signal (data) vs. noise
 - Strengthen position and magnitude



...graphs

- Strengthen data by doubling
 - Horizontally
 - Vertically
 - Or by “connecting the dots”
- Strengthen position and magnitude by “protecting” point



Other thoughts...

Overall

- Distinguish **viewable** from **editable**

VIEW LIPSUM	
Lorem Ipsum:	On
Dolor Sit Amet:	mg/dL
Consectetur Adip:	223

 &

EDIT LIPSUM	
Lorem Ipsum?	On
Dolor Sit Amet?	mg/dL
Consectetur Adip?	223

- Expose binary states (or state in general?)

BOLUS MENU	
Dual/Square Bolus	
Easy Bolus	
BG Reminder	

 VS

BOLUS MENU	
Dual/Square Bolus	
Easy Bolus?	On
BG Reminder?	Off

BOLUS MENU	
BG Units:	mg/dL
Sensitivity:	45
BG Targets:	→

- Expose consequences

SENSOR ON/OFF	
Off	
On	

 VS

SENSOR ON/OFF	
Off	
On/Settings	

 OR

SENSOR ON/OFF	
Off	
On...	

...other thoughts

Sensor > Edit Settings

- “Missed Data” and “Set Missed Data” nomenclature seems awkward. I’m not sure how best to change it; “No Comms Alm” and “Set No Comms Alm” are perhaps over-technical

Sensor > Sensor Start

- “Sensor Start” command results in “*Invalid transmtr ID: Please enter a valid transmtr ID*” when ID isn’t set. This does not yet naturally lead the user to the solution; a more explanatory error message would be helpful. It also might be useful to validate on entry, and to distinguish between the various ways this message can be triggered

Top Menu

- ~~Sensor Calibration” vs. “Sensor” option naming. perhaps rename “Sensor” to something slightly more specific? “Sensor Details?”~~
 - Reduce ambiguity
- ~~OR: Can the top menu option “Sensor” adapt to whether or not a Sensor is off/on? Perhaps “Setup Sensor” when initially off (never having been set up), “Sensor” when on?~~
 - Anticipate user tasks, reduce number of operations

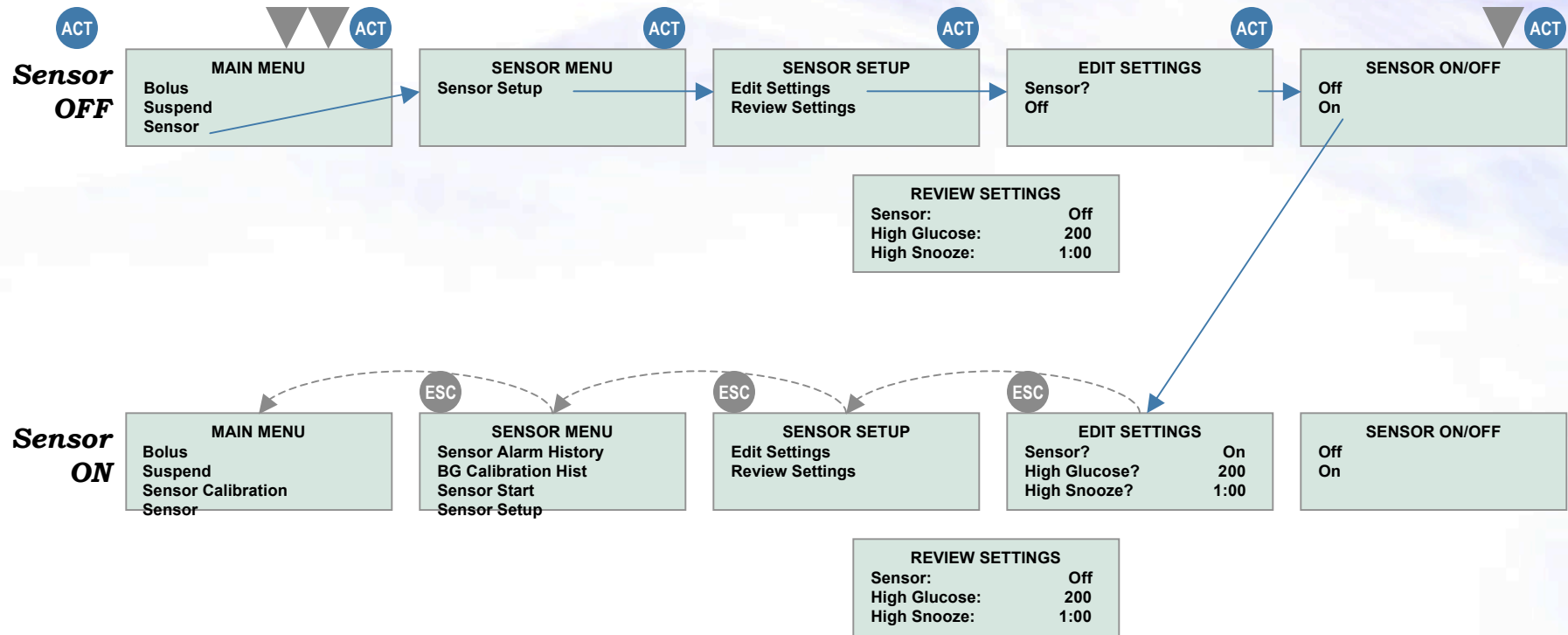
The story so far

- Increase interface power to speed use
- Make a distinction between displaying ***data*** and displaying (suggesting edit of) ***settings***
- Specificity in language is helpful
- Explanations/details in error conditions are especially helpful (you do this well in many places)
- Streamline important flows (through shortening, defaults)...



Existing Sensor Flows:

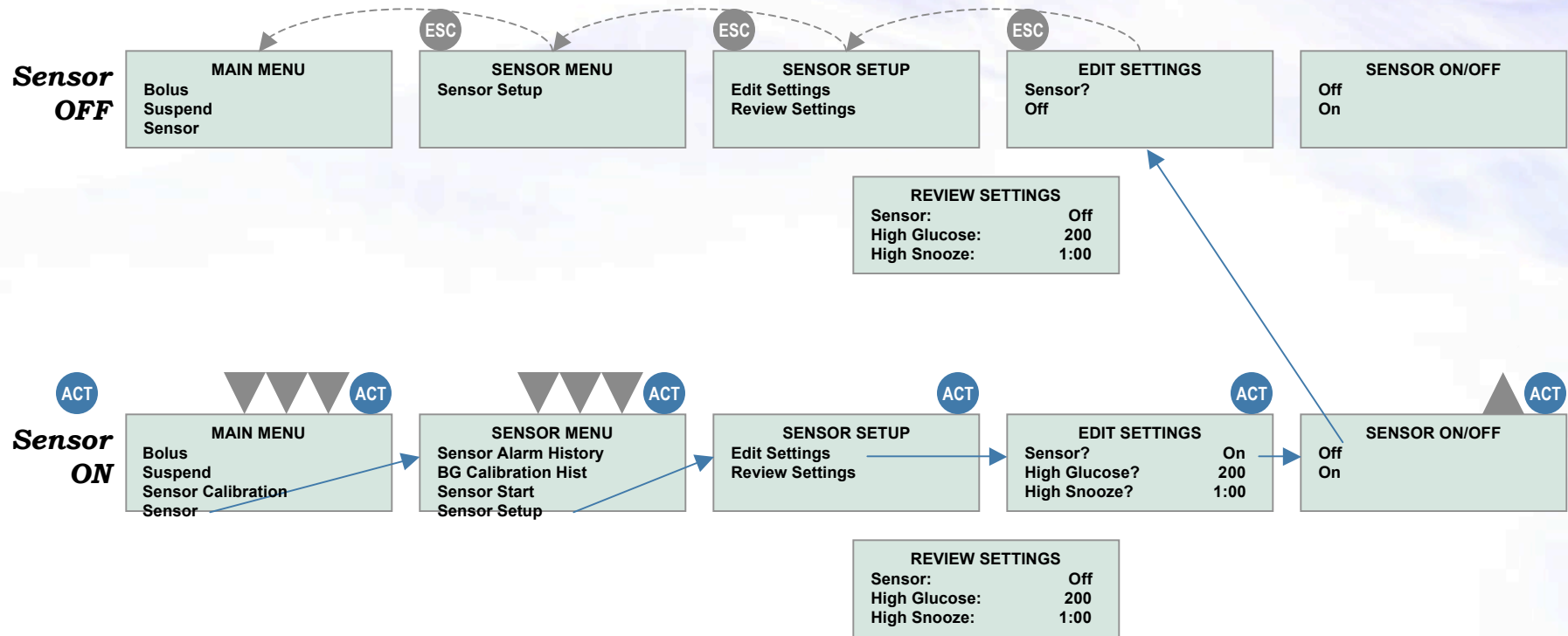
1) Sensor Set Up



12 clicks

Existing Sensor Flows:

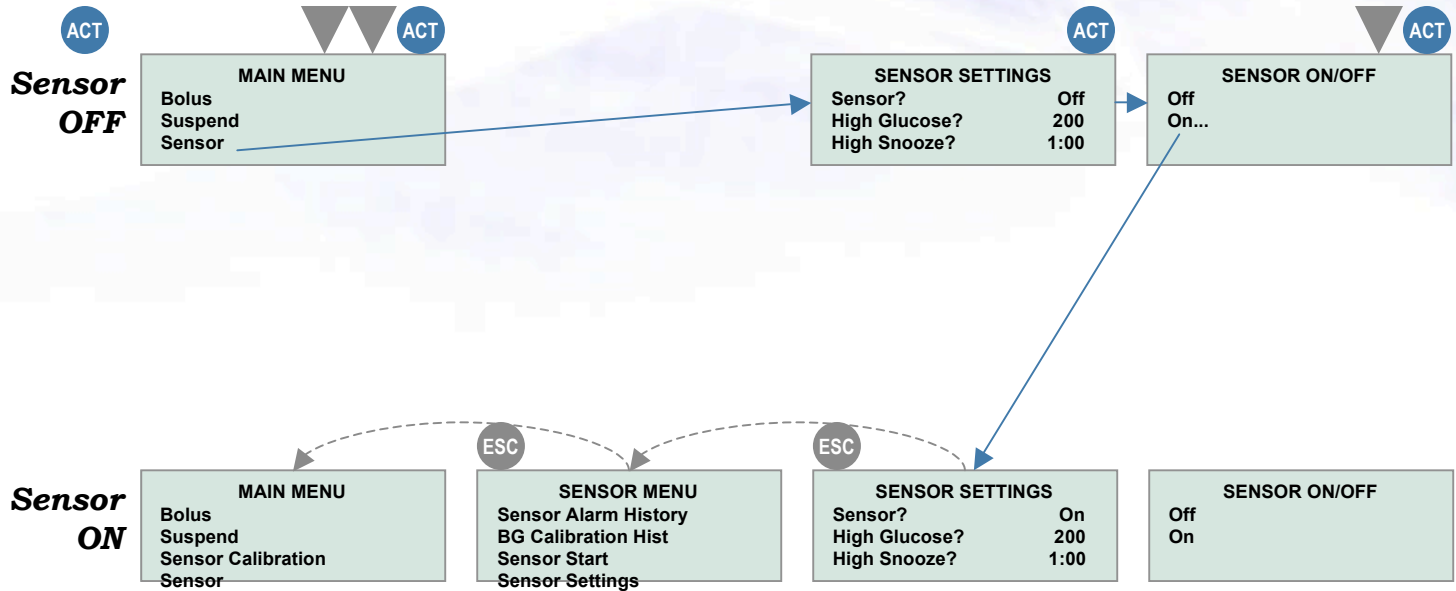
2) Sensor Tear Down



16 clicks

Streamlined Sensor Flows:

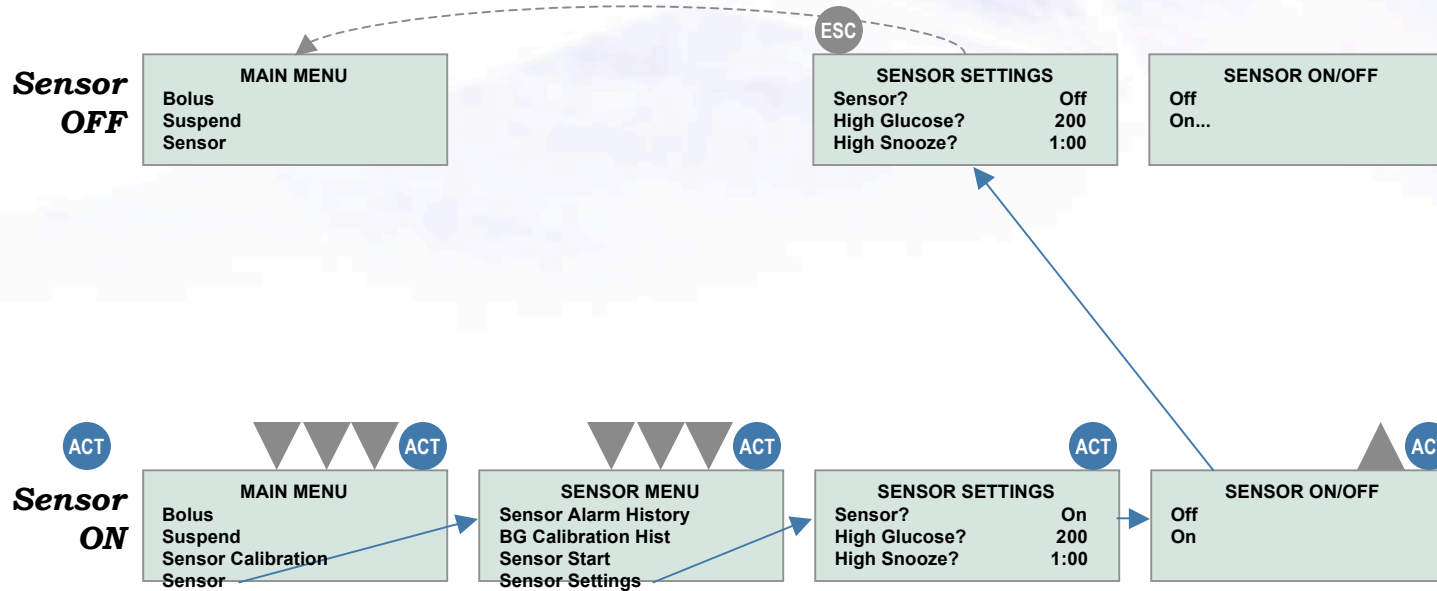
1) Sensor Set Up



9 clicks

Streamlined Sensor Flows:

2) Sensor Tear Down



13 clicks