IEEE P1752 Sleep Subgroup Meeting

Minutes of conference call held Jan 07, 2020, 8:30AM Pacific daylight time

Conference call started at 8:33 AM Pacific Standard Time on Zoom

Slide deck presented by subgroup Chair Charlotte Chen (available on [iMeet](https://ieee-sa.imeetcentral.com/login?eid=&rurl=%2Fomh%2Ffolder%2FWzIwLDEyMzg3MTU3XQ%2F))

Attendees:

Charlotte Chen (Philips)

Simona Carini (UCSF)

Banu Rekha (PSG College of Technology)

Josh Schilling (Vibrent Health)

Anna T. (Senior IEEE member)

Agenda

1. Modified Timelines
2. Status updates
3. Discuss major WG review comments
4. Summary of other WG review comments
5. Review comments on 2nd batch of quantitative schemas
6. Action Items
7. Adjourn

1. Timelines

* We are on schedule

2. Status updates

* Addressed WG review comments on three schemas from 1st batch (might need to review and make sure to incorporate the latest WG comments)
* Addressing WG review comments on remaining schemas from 1st batch

3. Discuss major WG review comments/proposals

* Agreed on the proposal: (1) simplify the top level description for a schema (2) Add standard descriptions for common properties (e.g. statistics, statistic denominator) (3) Add description for other properties (as needed)

Simona will propose the same in the physical activity group and let us know feedback. Once it’s approved, we’ll modify across schemas.

* Anna proposed to add a description to effective-time-frame
* Agreed on including two base values (e.g. light sleep duration, TST) as required properties and light sleep % as an optional property for light sleep percentage schema. It also applies to deep sleep percentage. With these changes, the name of the schemas need to be changed as well. Charlotte will make the changes.

Link to a blog post on Garmin website describing a 2018 update of some devices' sleep monitoring

[https://www.garmin.com/en-US/blog/fitness/advancedrem/](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.garmin.com%2Fen-US%2Fblog%2Ffitness%2Fadvancedrem%2F&data=02%7C01%7C%7C14d609b15bf5480fa2db08d79486e42e%7C1a407a2d76754d178692b3ac285306e4%7C0%7C0%7C637141179398809714&sdata=C9Q2%2F5SxRaPdMBHVwBicixzrnTlaGyXZ97HKdQX6iHM%3D&reserved=0)

(as an aside, it appears Garmin does not use nap data to calculate overall sleep statistics)

Short answer to Banu: Garmin uses body movement and heart rate variability

* We discussed the need to agree on naming conventions for

--a sleep event in its totality (from first falling asleep to final wake up), be it main or nap

--a sleep fraction bounded by two awakenings within the same sleep event

Simona’s recommendation is to check with CTA standard on sleep measures

[https://shop.cta.tech/collections/standards/products/definitions-and-characteristics-for-wearable-sleep-monitors](https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fshop.cta.tech%2Fcollections%2Fstandards%2Fproducts%2Fdefinitions-and-characteristics-for-wearable-sleep-monitors&data=02%7C01%7C%7C14d609b15bf5480fa2db08d79486e42e%7C1a407a2d76754d178692b3ac285306e4%7C0%7C0%7C637141179398819706&sdata=6iwgTTuYjIbdKvauRPNBU9VAkYjzgy3ZiPeF%2BB0oKhs%3D&reserved=0)

Again here, we need to agree and ensure that the agreement is implemented across all schemas, as applicable

* Referencing other non-base schemas: If a derived schema with effective time frame is referenced by another schema, it’s important to make sure the effective time frame in the referenced schema will be align with the schema you’re drafting (see an example in meeting slide 12)

4. Summary of other review comments

* Most of them have been discussed in the previous meeting
* Added example for delimiting the instances in the sample data

5. Review of 2nd batch comments on quantitative schemas

* Group walks through comments and propose resolutions (only have time reviewing one schema, will continue in the next meeting):
* Arousal-index
  + Comment 2: noise schema was mistakenly included in this folder
  + Comment 3: Agree with comment. To be corrected
  + Comment 4: Agree with comment. To be corrected. Simona will propose text based on the discussion on Comment 6
  + Comment 5: Agree with comment. To be corrected
  + Comment 6: statistics for one type of sleep session, not mixing different type of sleep session.
  + Comment 7: Agree with comment. To be corrected
  + Comment 8: Agree with comment. To be corrected

Action Items

* Address 1st set of comments (discussed & agreed) by Jan 20, 2020.
* Start to address 2nd batch of comments
* Simona will provide feedback from physical activity group on her first proposal (see above) before we make any changes
* Simona will propose text on top level description of arousal-index schema (as above)

Next Call: Sleep Schema call will be Feb 4 (tentative) at 8:00 AM Pacific

Minutes taken by Charlotte Chen & Simona Carini

Conference Call adjourned 9:32AM, PST