



# minutes



Friedrich-Alexander-Universität  
Erlangen-Nürnberg



Sub project / GAP (incl. sub projects): GAP-V (A03, A05, D02)

Date and location: 2022-06-14 – online (MS Teams)

Participants: Misha Sadeghi, Lydia Rupp, Robert Richer, Jasmin Kolpak, Fabian Michler, Christian Carlowitz, Marius Schmidt, Klara Capito

Keeper of the minutes: Klara Capito

Date and location for next meeting: **2022-07-12 at 1p.m.** – online (MS Teams)

## topic 1 – status update D02

### content/description:

- Preparations for study / experiment are almost finished
- Several **pretests** were done
  - o Lab setup
  - o Data acquisition process & data quality
  - o Data synchronisation
  - o Mobilephone application
  - o Whole experiment procedure
    - Mock experiments with (semi-)naive participants
- Next steps:
  - o Installation of our own Biopac system - *today*
  - o Recruitment - *starting this week*
  - o Mock experiment with naive participant – adjustments if and where necessary - *next week*
  - o First „real“ participant in **July**

### tasks and responsibilities:

## topic 2 – status update A03

### content/description:

- Pretests / small measurement campaign with first prototype
- Using hand flexing muscle, 24kHz antenna, and small electrodes (4mm) vs. large electrode (24mm)
  - o Signal (quality) looks very good
    - Very low baseline noise
    - Signal comparable between larger and smaller electrodes

- Next steps:
  1. Evaluating localization frontend with LHFT (test end of June/beginning of July) → current work in progress
  2. Miniaturizing the sensor and evaluating it → after 1 is done
    - Cooperation with Prof del Vecchio
    - Comparison of new system with currently available systems (Bio electronica)
    - Idea: Add “side study” to evaluate new system
- ➔ Working prototype that can be used in D02 by end of this year

tasks and responsibilities:

### topic 3 – status update A05

content/description:

- No real updates here
- Issue: wearable / head mount – not really feasible for participants esp. patients in D02 experiment
  - ➔ Any solutions / ideas?
    - Identifying one certain point on face (i.e., using makeup or similar) → this would be necessary, if the system is not place on the person directly but remotely (i.e., on the table in front of the person)
    - Some issues with this approach: several sensors would be needed, distance is an issue, reduced signal strength etc.
    - On the other hand building the head setup is an issue itself and could be avoided this way
    - Spot size for measurements: ~ 3-4mm
  - ➔ Decision on which approach we want to follow is needed ASAP, because we/A05 would have to see if the system works the decided way...

tasks and responsibilities:

- To dos for **A05** / Marius and Christian
  - discussing possible solutions (sensors, lenses etc.) that could enhance signal quality when using remote option
  - 1-2 months to validate if remote option is realistic...
    - If it seems to be working
      - ➔ implementation and validation (fixed head position) is needed!
      - ➔ After that signal quality should be “stabilized” for head movement, too
    - If remote system does not seem to work
      - ➔ implementation of head mount solution
- To dos for **D02**:
  - Angles of the spot on the Face and the position and the size of the spot on the face in the experiment setup (Misha)
  - Discuss if and how head mount would be possible (everyone in D02/psychologists)
  - Get back to Marius and Christian

### topics for next meeting

- ☐ current status in each sub project
- ☐ decision on solution for A05 system (if possible)
- ☐ feedback on A05 system from D02
- ☐ further open questions
- ☐ next meeting

**Notes:**

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