PRIVACY SHAKE

HAPTIC INTERFACE FOR MANAGING PRIVACY SETTINGS IN MOBILE, LOCATION-SHARING APPLICATIONS

“PRIVACY-SHAKE”
- Four simple gestures to support privacy management tasks on the go
- Heads-up non-screen-based mobile interface
- 3x faster than traditional, graphical interface

HOW "PRIVACY-SHAKE" WORKS?
1. User shakes phone vertically few times to initiate the gesture recognition
2. User changes privacy settings:
   - Vertical movement enables location sharing
   - Horizontal movement disables location sharing
3. User changes granularity of disclosed location to: the city level by moving the phone forward
4. User instructs the system to share exact location by bringing the phone closer to his body

EXAMPLE SCENARIO
Alice is walking around the town. It’s her wife birthday, and she wants to buy her a bracelet. During the shopping, she realizes she can look up his location via mobile phone and surprise her. Bob shakes his phone vertically. He receives a notification that the Privacy-Shake is initiated...

LAB-BASED EVALUATION
16 participants completed the following tasks using Privacy-Shake:
- T1. Enable location sharing
- T2. Disable location sharing
- T3. Change the granularity of disclosed location to: exact location (building level), city level
- T4. Disable location sharing using the GUI

Each participant had three attempts to perform tasks T1, T2 and T3.

OVERALL SCORE

THE SUMMARY AND FUTURE WORK
- Privacy-Shake received positive feedback
- Privacy-Shake is 3x faster than GUI, which demonstrates the potential of haptic interfaces in performing basic privacy management tasks
- Future work on enhancing the interface is needed, such as:
  - Support for individual calibration
  - Personalized gestures for better efficiency
  - Implementing new gestures for managing group settings or expressing more fine-grained preferences

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