

4 Conclusion & Future Work

We took the first steps towards our vision of ambient search as a basis for further investigation. Future and ongoing research activities cope with extracting appropriate keywords from the dialog stream. For this, we are currently inspecting transcribed dialogs to find possible strategies and we are developing an automated evaluation framework. Furthermore we are looking into user interaction with ambient search and its applicability to group discussions. Another important task we have to tackle for making ambient search practicable is to improve ASR performance, especially in noisy environments.

Acknowledgements

This work was partly supported by the Bundesministerium für Bildung und Forschung (BMBF), Germany under the programme “KMU-innovativ: Mensch-Technik-Interaktion für den demografischen Wandel”.

References

1. Anzalone, S.M., Yoshikawa, Y., Ishiguro, H., Menegatti, E., Enrico, P., Sorbello, R.: A topic recognition system for real world human-robot conversations. In: *Intelligent Autonomous Systems*, vol. 12, pp. 383–391. Springer (2013)
2. Biemann, C., Quasthoff, U., Heyer, G., Holz, F.: ASV Toolbox: a Modular Collection of Language Exploration Tools. In: *Proceedings of the Sixth International Conference on Language Resources and Evaluation (LREC’08)*. pp. 1760–1767. European Language Resources Association (ELRA), Marrakech, Morocco (2008)
3. Coehoorn, M.: Phubbing? An absurd design intervention for redefining smart-phone usage. Master’s thesis, TU Delft, Delft University of Technology (2014)
4. Jeh, G., Widom, J.: Scaling personalized web search. In: *Proceedings of the 12th International Conference on World Wide Web*. pp. 271–279. WWW ’03, ACM (2003), <http://doi.acm.org/10.1145/775152.775191>
5. Lamere, P., Kwok, P., Gouvêa, E., Raj, B., Singh, R., Walker, W., Warmuth, M., Wolf, P.: The CMU Sphinx-4 Speech Recognition System. In: *IEEE Intl. Conf. on Acoustics, Speech and Signal Processing (ICASSP 2003)*, Hong Kong. pp. 2–5 (2003), http://www.cs.cmu.edu/~rsingh/homepage/papers/icassp03-sphinx4_2.pdf
6. Manning, C.D., Raghavan, P., Schütze, H.: *Introduction to information retrieval*, vol. 1. Cambridge University Press Cambridge (2008)
7. Schnelle-Walka, D., Radeck-Arneth, S., Biemann, C., Radomski, S.: An Open Source Corpus and Recording Software for Distant Speech Recognition with the Microsoft Kinect. In: *Speech Communication; 11. ITG Symposium*. p. 4. VDE (2014), (to appear)
8. Stas, J., Juhar, J., Hladek, D.: Classification of heterogeneous text data for robust domain-specific language modeling. *EURASIP Journal on Audio, Speech, and Music Processing* 22 (2014), <http://dx.doi.org/10.1186/1687-4722-2014-14>