



Voice Controlled Assistive Care & Communication Services for the Home



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What is vAssist?

vAssist creates multilingual natural voice controlled home care and communication services for two target groups: seniors suffering from (fine) motor restrictions and/or chronic diseases. vAssist strives for enhancing the quality of life of senior European citizens by balancing user needs, business aspects and technical issues.

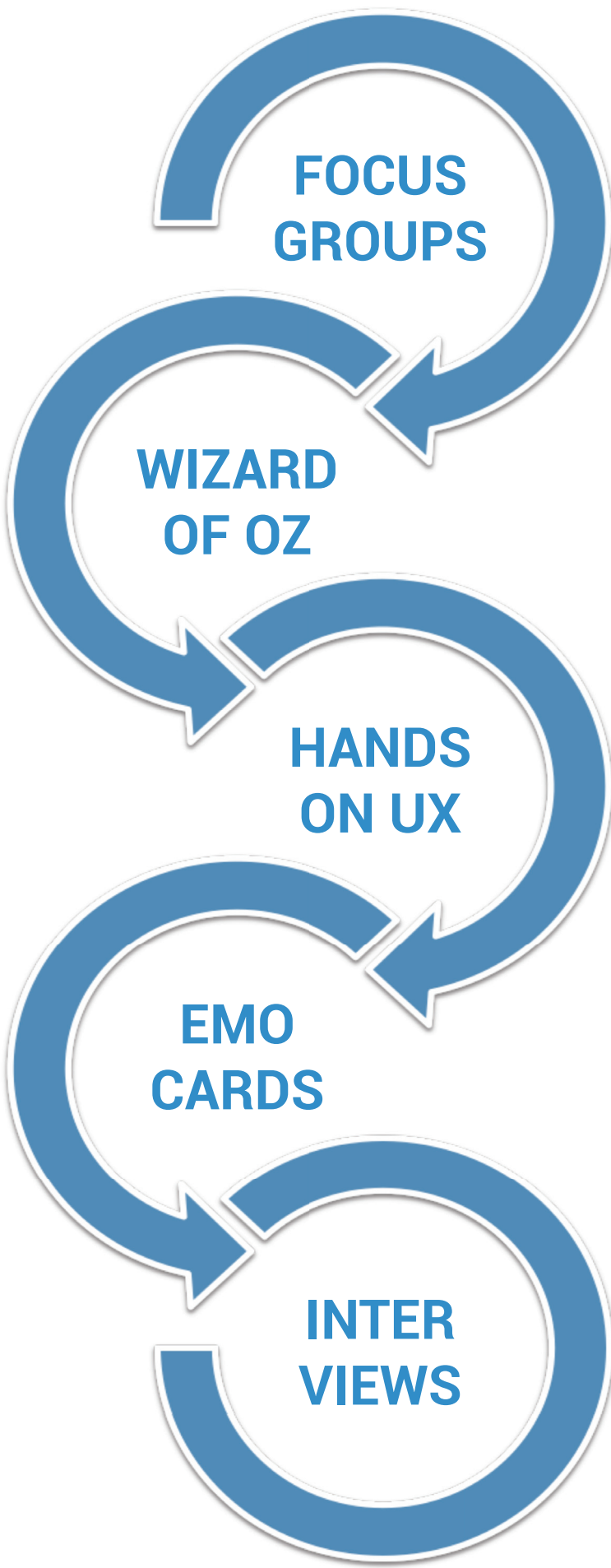
How can vAssist help?

- NATURAL SPEECH INTERACTION:** Compensating (fine) motor restrictions when interacting with ICT and supporting seniors with little or no ICT experience since no new form of interaction has to be learned.
- CHANNEL INDEPENDENCE:** Enhancing the perceived quality of supportive services by reducing costs related to their production and delivery so that existing hardware in the homes of seniors can be used.

What is natural speech interaction?

Specific forms of user interfaces are spoken dialogue systems. These systems are based on voice in- and output and enable a near to reality turn-by-turn interaction with humans applying natural language.

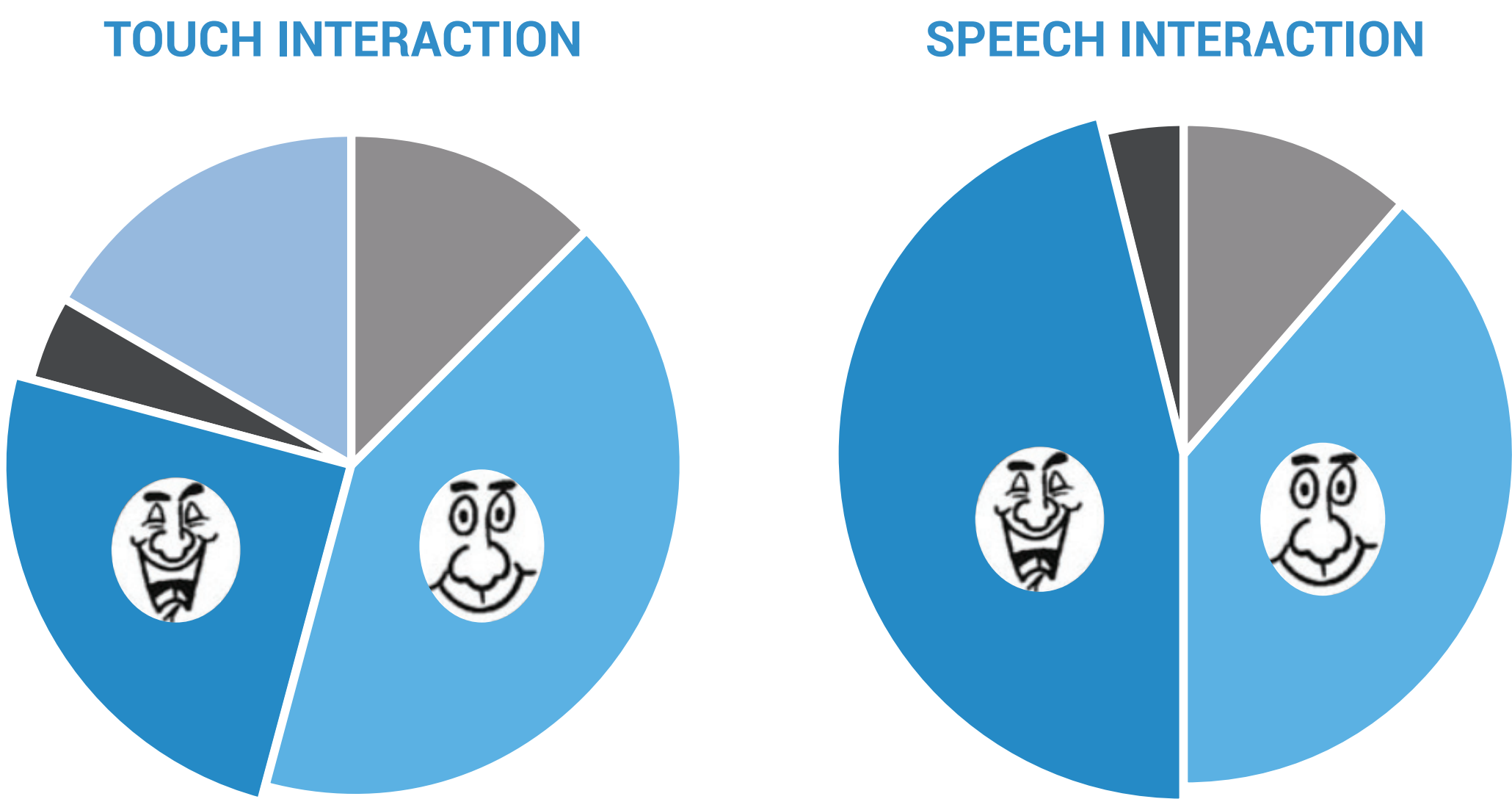
User-centered & technical approach



- USER-CENTERED MARKET-ORIENTED DESIGN:** Covering perspectives from seniors, family members, health professionals and future stakeholders by considering user, technical and economic constraints.
- NATURAL SPEECH INTERACTION:** Applying language-specific speech models and optimized service-specific recognition grammars that allow older users to interact with services in a natural way.
- CHANNEL INDEPENDENCE:** Providing clearly defined interfaces that separate the infrastructure (speech in/output) from the services provided to the seniors.

First results

- DEVICES:** Services are expected to be available on static and mobile devices.
- INTERACTION:** Natural language must be accompanied by graphical interactions for situations where speech control fails.
- POTENTIAL OF NATURAL SPEECH INTERACTION:** Seniors show a positive emotional attitude towards speech control as an alternative interaction technique.



Emotional attitude towards touch (left) and speech (right) interaction

- COMMUNICATION:** Audio and text based services are the main information exchange channels between seniors and family members.
- HOME CARE:** Emergency calls and a well-being diary for managing and exchanging physiological parameters, drugs, physical activity and sleep/pain quality between seniors and health professionals.
- BUSINESS:** Service packages have to be open for individualization offering low, mid and high cost models differing in the number of included services.

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