The eternal battle between the VUI Designer & the Customer

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Voice User Interface Design: Major Issues
(Session A103)
Structure of the Talk

- VUI Design vs Good VUI Design
- VUI Designer vs Customer: from friendly cooperation to a full-on Battle!
  - Call Flow Design
  - System Persona Development
  - Prompt Crafting
  - Recognition Grammars
- Ways out of Conflict & Disagreement
VUI Design vs Good VUI Design

- VUI Design involves:
  - Conception of a (speech / DTMF) solution
  - Requirements Specification / Design
  - Implementation (prompts, grammars etc.)
  - Testing (functionality, coverage, usability)
- Internal
  - Tuning
  - Testing
- External (user acceptance)
  - Launch
  - Maintenance

Iterative Development

Develop Test Tune
VUI Design vs Good VUI Design

- Good VUI Design aims towards solutions that are:
  - “user-friendly”
  - “user-centric”
  - “intuitive”

- Good VUI Design aims \textit{realistically} towards:
  - Efficient solutions
  - Secure applications
  - that do NOT irritate or confuse the user
Both sides agree that **Requirements Analysis & specification** should take into heed multiple aspects (Discovery Workshops):

- The Customer's financial and logistic limitations
- The Customer's marketing / brand expectations
- The Customer's technical infrastructure

**BUT -of course - ALSO**

- Callers' needs and goals (target tasks)
- Callers' expectations regarding the solution / company
- Callers' contact / behavioural / technical preferences
VUI Designer vs Customer: the Humble beginning

Requirements Analysis & Specification
VUI Designer vs Customer: Elements of a Battle!

- As soon as they all leave the meeting room .... disagreements spring up on:
  - Call Flow Design
  - System Persona Development
  - Prompt Crafting
  - Recognition Grammars
VUI Designer vs Customer: Elements of a Battle!

PROBLEM:

- Different **background** (technical, software dev, business & sales, marketing, VUI, linguistics)
- Different **attitudes** towards implementation and „the other side“ (techies: ease and modularity of implementation, compatibility with existing infrastructure, habit; **VUI Designer**: usability, intuitiveness, naturalness, simplicity, effectiveness, robustness [„expect the unexpected“])
VUI Designer vs Customer: Elements of a Battle!

OUTCOME:
- Different interpretations as to what is required
- disparate implementation strategies
- inconsistent implementation decisions
- Personal clashes!!
- Duplication of effort (things need to be redone!)
- Project delays :(
Common pitfalls in communication

- **VUI Designer specifies Detail** (context-dependent, case-dependent, error-dependent, consistency-preserving)
- **Programmer insists on simplification** (aiming at modularity, reusability, speed and ease of implementation at all costs)
VUI Designer vs Customer: The Call Flow Design Battle

Common pitfalls in communication:

**Detail vs simplification:**

- similar (sub)processes are wrongly merged into a single (sub)process / task structure gets oversimplified (e.g. menu options before and after a caller menu choice)
- Different error repair strategies are wrongly merged into a single repair strategy (e.g. error message+ transfer to Agent vs clarification+return to previous stage)
- Single Confirmation / feedback strategy rather than dynamic (implicit as default, explicit for misunderstandings / errors)
- Caller counter-questions / menu jumps are not taken into heed
VUI Designer vs Customer: The System Persona Battle

Common pitfalls in communication

- VUI Designer wants to ensure general / “universal” (or specialised) caller appeal
- Business and Marketing aim towards “sexiness”, personal bias and preferences, social preconceptions
VUI Designer vs Customer: The System Persona Battle

Common pitfalls in communication:

“universal” / specialised caller appeal vs “sexiness”

- Choice of voice talent (male vs female)
- Choice of regional accent or enunciation (e.g. Queen's English vs Scottish accent)
- Choice of pitch (high vs low)
- Choice of speaking speed (fast vs slower)
- Choice of speaking style and tone (hip vs polite, MTV vs BBC)
VUI Designer vs Customer: The Prompt Crafting Battle

Common pitfalls in communication

- VUI Designer wants system messages that are:
  - clear, unambiguous,
  - Brief, intelligible, helpful, personalised
  - Consistent and predictable without tedious repetitions

- Customer wants system messages they are used to / expect
VUI Designer vs Customer: The Prompt Crafting Battle

Common pitfalls in communication:
Clarity, briefness and consistency vs familiarity and (bad) habit

- Message wording (e.g. company jargon vs standard terms, ambiguous queries vs clear instructions, multiple ways to refer to the same thing)
- Message length (e.g. long-winded prompts with cross/upselling)
- Customised recordings vs TTS
VUI Designer vs Customer: The Recognition Grammar Battle

Common pitfalls in communication

- VUI Designer wants to encode what people *(may) say* *(descriptive)*
- Customer wants the VUI Designer to encode what they think they would say themselves or they think callers *should say* *(prescriptive)*
Common pitfalls in communication:

**Descriptive** *(robustness / the real world)* vs **prescriptive** *(the ideal world)*

- **Grammar coverage** (e.g. limited keywords vs established synonyms, grammatical sentences vs spontaneous speech phenomena [hesitation, false starts, repetition, incompleteness, ungrammaticality], „proper English“ vs colloquialisms)
- **Grammar rigidity** (e.g. single slot vs multiple slot filling / keyword spotting, fixed task flow vs mixed initiative / menu jumps)
Ways out of the Conflict

- War of words and attitudes!
  - The VUI Designer has seen systems developed and spurned by users before
  - They have tried and tested different techniques and strategies (some of which have failed)
  - BUT they are “outsiders” (external contractors or just “guilty of a Humanities background”!)

- STRONG OPINIONS!
Ways out of the Conflict

- War of words and attitudes!
  - The Customer is influenced by existing relationships (and their dynamic) in their organisation:
    - Tech-savvy **business dev and sales guys** (and their pitches)
    - **System architects** (and previous projects they've worked on)
    - **Programming geniuses** (and their implementation style)

- STRONG OPINIONS!
Ways out of Disagreement

- **Step back and Understand what's going on** (how many different sides in the battle? Who sides with whom and why? (allegiance? Habit? fear?)

- **Explain why VUI Design is different to standard system design** (it cannot be done by your average programmer and it's certainly NOT “fluffy”!)
Ways out of Disagreement

- If necessary, resort to a quick prototype and test with customer employees (the proof is in the pudding!)

- If the worst comes to the worst, give up and wait for the (revealing) usability results (but then it'll be too late!)
  - Duplication of effort
  - Project delays
Summary

- Balance needs to be struck between “The customer (caller) is king” (VUI Designer) and “Is this doable?” (Programmer)

- Care needs to be taken when worries such as “Is this what I expected? / Is this the way we are used to doing things?” come up!
Summary

Keep the ultimate goal in mind:

- **Usability** (simplicity of use, self-explanatory prompts, learnability)
- **Caller acceptability**
  - Caller should feel understood (without expecting too much off the system) and served and should want to come back!