

# The eternal battle between the VUI Designer & the Customer

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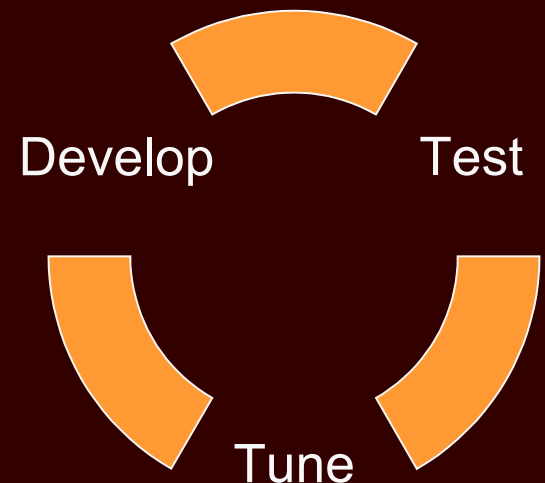
Voice User Interface Design: Major Issues  
(*Session A103*)

# 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** *Iterative Development*
      - **Testing**
    - External (user acceptance)
      - **Launch**
      - **Maintenance**



# VUI Design vs Good VUI Design

- Good VUI Design aims towards solutions that are:
  - “user-friendly”
  - “user-centric”
  - “intuitive”
- Good VUI Design aims realistically towards:
  - Efficient solutions
  - Secure applications
  - that do NOT irritate or confuse the user

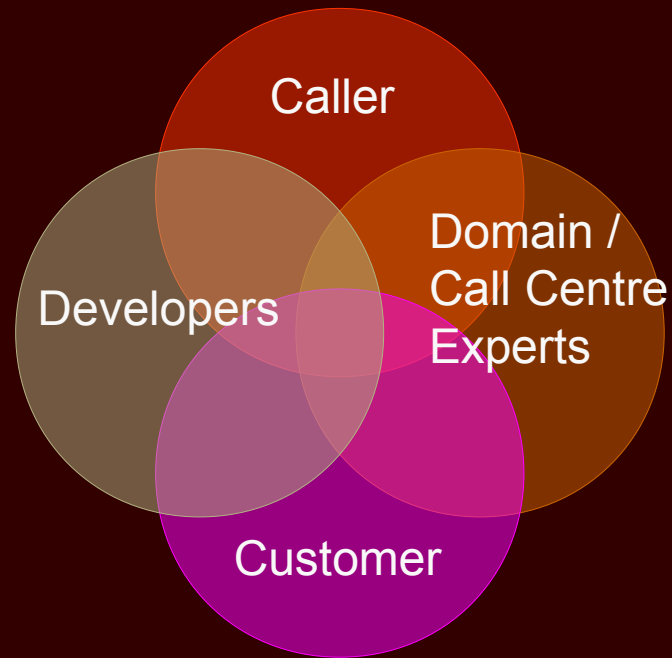
# VUI Designer vs Customer: the Humble beginning

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 :(**

# VUI Designer vs Customer: The Call Flow Design Battle

- 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, brevity 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)**



# VUI Designer vs Customer: [The Recognition Grammar Battle]

- 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!