Introduction to QUANSY

QUestion ANswering SYstem

An approach to intelligent home automation
QUANSY and Modules

• QUANSY offers a menu of Options for potential integration into the system
• These modules include:
  – Basic home automation – Starting stage
  – Speech Servant : Telephony and Internet
  – Video Interface
  – Home Security
  – And so on
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Speech Servant

In Use with Internet and the Phone System
Speech Servant

• Serves direct use & interface with the system
  – Answer the phone
  – What is the weather in four days in Chicago

• As well as for remote control of system functions (the cell phone is the remote controller for the system)
  – Turn on the air conditioning, we should be home within ten minutes.
Considerations

• The Speech Servant is a powerful tool
  – It requires no GUI, no learning curve!!
  – It only does what you direct it to do!!
    • “Take” my calls
    • Tell me who is calling
    • Take my direction with regard what to do
      – Answer
      – Ignore
      – Interact
        » Call back in two hours
        » When can I call back
Internet, considerations

• Goal (example)
  – What is the weather in 3 days in Chicago
  – (Within a few minutes) The weather in Chicago in 3 days will be 65° and fair

• Security
  – For system
  – For messages
  – While being attacked
Telephony Considerations

• System Interfaces
  – Wired
  – Wireless
    • Cellular
    • Radio
    • Other
Control of the Speech Servant

• System Administrator Directs Operation
  – Who may have access to the phone through QUANSY
  – Who may have remote access to the system
    • Via phone
      – Requires voice sample
    • Via internet
      – Passwords, speech input
    • Via Speech directly to system
Control via the Speech Servant

• An example of Control via QUANSY
• The system administrator addresses QUANSY
• “QUANSY, please meet George”
• “He is visiting for the next three days”
• “He has control of the lights in the guestroom.”
• “He has access to the house between 6:00 AM and 12:00 PM.”
Control via the Speech Servant²

• “Any Questions?”
• “Hi George, I have to talk to you a little.”
• “Have you ever worked with a Speech Servant?”
• “No, but I am willing to try the experience.”
• QUANSY will talk to George until it has enough information to clearly identify him.
• George now can turn the lights on and off in his room and has access to the house.
Control via the Speech Servant

• Similar control procedures could be used with various other people who need access
• “QUANSY, the maid will come on Tuesdays between 1:00 PM and 5:00 PM”
• “Let her in when she comes and let me know that she has arrived.”
• “Keep a video record of what she does.”
• “Let me know when she leaves.”
Control via the Speech Servant

• For the above discussion to be successful, QUANSY would have to already have full details on the maid including full details of her voice.

• “QUANSY, the air conditioning man will come on Wednesday between 1 PM and 3 PM. The password will be 10 20 30 55. If he knows the password, let him in and tell him where the air conditioner is.
Telephone use with QUANSY

• Interaction
  – “David, there is a call from Helen.”
  – There are several different possibilities. These are dictated by several different conditions
  – “I want to talk to here, put the call through.”
  – “I can’t talk to her now, when can I call her back?”
  – “I can’t talk to her now, when can she call back?”
  – “Ignore the call, I don’t want to talk to her.”
Telephone use with QUANSY

• Interaction, cont’d
  – Examples 2 and 3 above place QUANSY potentially in direct interaction with a human.
  – In the first releases of QUANSY, the users will be warned that the linguistic interactions that QUANSY can handle are limited.
  – The administrator can program QUANSY to handle some of the possible situations.
Cathy’s Comment

• A Reason for QUANSY.....