Ak

An Audio Toolkit for Tcl & Tk

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Outline

- AudioFile
- Ak details and code examples
- Implementation
- Future work
AudioFile

- Network-transparent, device-independent audio system
- Emphasis on client-side handling of audio
- Unique model of time
Abstractions

- **Connections to AudioFile servers:**
  audioserver main "north-fork:0"

- **Device contexts:**
  main context room-device -device 1

- **Requests ("audio widgets")**
  - Types: play, action, record, passthrough
  - Operations: create, config, delete
Request Examples

- **Create play request:**
  
  ```
  set req [room-dev create play "hello.au"
         -start {now +5s} -stop {now +6s}
         -offset {+10s}]
  ```

- **Configure the request:**

  ```
  room-dev reqconfig $req -stop {now}
  ```

- **Create an action:**

  ```
  room-dev create action 
  "puts stdout STOP!" -at {now +5s}
  ```
Events

- AudioFile events: 
  ring, hookswitch, loop current, DTMF detect

  phone-dev bind <RingStart> \ 
  "phone-dev hook off"

- Command substitution
Implementation

- 2,500 lines of C
- Request type table
- Audio time scheduler
- Mostly independent of Tk
The Future

- Lots of work left!
- Applications:
  - Full-featured tape deck
  - Multimedia presentations and tutorials
  - Telephone inquiry system
  - Design a signal processing architecture
  - First release at end of summer