Ak An Audio Toolkit for Tcl & Tk

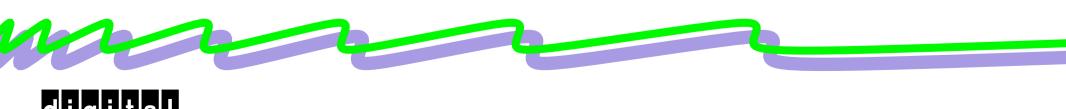
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Digital Equipment Corporation Cambridge Research Laboratory June, 1993



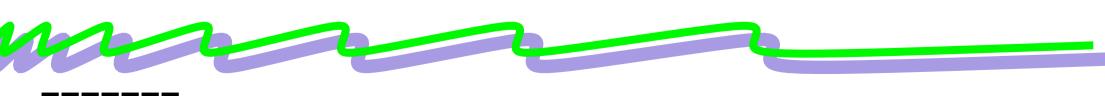
Outline

- □ 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

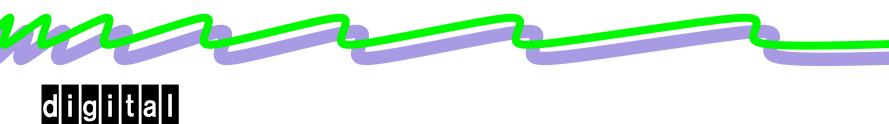
```
phone-dev bind <RingStart> \
   "phone-dev hook off"
```

□ 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

