Outline

• What is UI anyway?

• GUI –Generic User Interface.

• Speech interaction.
What Is UI?

1. Obtain user input
2. Compute on the information
3. Display the results

\[ UI = \text{Input} + \text{Output} \]
What Is UI?

Application

User

I

data

result

O

attention

intention

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Expressing Intent

- Typing on a keyboard.
- Pointing and clicking a mouse.
- Issuing a spoken command.

Supply information to the application
Present Information

- Visually

- Aurally

Display derived from information.
Java And Access

• More than just access to applets.

• Enable universal, multimodal access?

A Challenge –and An Opportunity
Generic User Interface

• Separate modality specific interaction from application logic.

• Modality specific interface objects implement specific UI.

Enable multiple interaction techniques!
UI Toolkits

- Building blocks for interaction.
- Low-level widgets are modality specific.

Application logic lost in complex UI

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Generic UI Toolkits

Generic Interface Objects:

- High level dialog components encapsulate application logic.
- Can be subclassed to implement modality specific behavior.
Speech Interaction

• Don’t read aloud the visual display.

• Don’t have user say what can be typed.

Treat speech as a first-class IO medium.
Speech Enabling Applications

- Treat speech as a first class medium.
- Application produces its own feedback.
- Exploit features of the spoken medium.

Independent Audio and Visual Output.
Prerequisites

- Access to application logic.
- Access to computed information.