UI Toolkits Discussion

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TWO PAPERS
Past, Present and Future of User Interface Software Tools

Brad Myers

Scott Hudson

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Rapid Development of User Interfaces on Cluster-Driven Wall Displays with jBricks

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THEMES FOR EVALUATING TOOLS
What Works?
Themes in Evaluating Tools

- Addressing Needs
- Threshold and Ceiling
- Path of Least Resistance
- Predictability
- Moving Targets
How difficult it is to learn how to use the system
How much can be done using the system

THRESHOLD AND CEILING
Walls and Gentle Slopes
Windows Presentation Foundation
Windows Presentation Foundation
Windows Presentation Foundation

XAML

```xml
<Style TargetType="Button">
  <Setter Property="SnapsToDevicePixels" Value="true"/>
  <Setter Property="OverridesDefaultStyle" Value="true"/>
  <Setter Property="FocusVisualStyle" Value="{(StaticResource ButtonFocusVisualStyle)}"/>
  <Setter Property="MinHeight" Value="23"/>
  <Setter Property="MinWidth" Value="75"/>
  <Setter Property="Template">
    <Setter.Value>
      <ControlTemplate TargetType="Button">
        <Border x:Name="Border">
          <Border.Triggers>
            <Trigger Property="IsKeyboardFocused" Value="true">
              <Setter TargetName="Border" Property="BorderBrush" Value="{(StaticResource DefaultedBorderBrush)}"/>
            </Trigger>
            <Trigger Property="IsDefaulted" Value="true">
              <Setter TargetName="Border" Property="BorderBrush" Value="{(StaticResource DefaultedBorderBrush)}"/>
            </Trigger>
            <Trigger Property="IsMouseOver" Value="true">
              <Setter TargetName="Border" Property="Background" Value="{(StaticResource DarkBrush)}"/>
            </Trigger>
            <Trigger Property="IsPressed" Value="true">
              <Setter TargetName="Border" Property="Background" Value="{(StaticResource PressedBrush)}"/>
              <Setter TargetName="Border" Property="BorderBrush" Value="{(StaticResource PressedBorderBrush)}"/>
            </Trigger>
            <Trigger Property="IsEnabled" Value="false">
              <Setter TargetName="Border" Property="Background" Value="{(StaticResource DisabledBackgroundBrush)}"/>
              <Setter TargetName="Border" Property="BorderBrush" Value="{(StaticResource DisabledBorderBrush)}"/>
              <Setter TargetName="Foreground" Value="{(StaticResource DisabledForegroundBrush)}"/>
            </Trigger>
          </Border.Triggers>
        </Border>
      </ControlTemplate>
    </Setter.Value>
  </Setter>
</Style>
```
Threshold and Ceiling

• Is a gentle slope the right goal?
Threshold and Ceiling

• Is a gentle slope the right goal?
• Are there any examples of gentle slope systems?
Threshold and Ceiling

• Is a gentle slope the right goal?
• Are there any examples of gentle slope systems?
• What are the trade-offs?
The kind of user interfaces that can be created
Leading implementers towards doing the right things

PATH OF LEAST RESISTANCE
iOS Human Interface Guidelines

Introduction

iOS Human Interface Guidelines describes the guidelines and principles that help you design a superlative user interface and user experience for your iOS app.
iOS Human Interface Guidelines

• Advises choosing from the standard, fixed set of widgets
• Good enough for most developers and apps
• No framework support if deviate from guidelines
Conventional Configuration
Path of Least Resistance

• What are the benefits and drawbacks of such an approach?
Themes in Evaluating Tools

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Themes in Evaluating Tools

- Addressing Needs
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- Path of Least Resistance
- Predictability

• Are all of these still relevant?
• What’s missing?
MORE EXAMPLES OF UI TOOLKITS
Mid-air Pan-Zoom on Wall-sized Displays

M Nancel  J Wagner  E Pietriga  O Chapuis  W Mackay
LRI – Univ Paris-Sud & CNRS; INRIA

CHI 2011

jBricks
http://www.lri.fr/~chapuis/publications/CHI11-pzwild.mov
Spine.js

http://spinejs.com/pages/screencasts
FUTURE OF UI TOOLKITS
Microsoft’s Vision of the Future

http://worrydream.com/ABriefRantOnTheFutureOfInteractionDesign/
Microsoft Kinect

http://www.youtube.com/watch?feature=player_embedded&v=JHL5tJ9ja_w
What features would a UI toolkit need to handle these new interactions?