NY Magic Leap Meetup

Building 3D Interfaces with Magic Leap

July 24, 2019
Magic Leap 3D Interfaces

- Touch Gesture Interaction
- Drone controlled using Magic Leap Hand Gestures
- Moving Cloud Planet Distance: 7.394958
- Magic Mover Interface
- 3D Interface controlled by Eye Tracking
Magic Leap Deployment

1. **Unity3D**
2. **Lumin SDK**
3. **mldb/mabu** (produces MPK file)
4. **Magic Leap**
ML Input
Magic Leap Control

Controller.cs

MLInputController _controller;
bool _homeButtonUp;

void Start() {
    MLInput.Start();
    _controller = MLInput.GetController(MLInput.Hand.Left);
    MLInput.OnControllerButtonUp += OnButtonUp;
}

void OnDestroy() {
    MLInput.OnControllerButtonUp -= OnButtonUp;
    MLInput.Stop();
}

void OnButtonUp(byte controller_id, MLInputControllerButton button) {
    if (button == MLInputControllerButton.HomeTap) {
        _homeButtonUp = true;
    }
}
Interacting with UI Elements

- Sliders
  - Can readily resize and reorient slider
- Buttons
- Toggle switches
Toggle Buttons

- System Icons:
- Eliminate individual draw calls by using one Atlas
- Enable haptic feedback and sound
General Hand Gestures

- Collection of standard hand gestures
- Left/Right Hand recognition
- Confidence metrics
Drone Flight Lexicon

- 14 Basic Commands
- Two command types:
  - Discrete
  - Continuous
- Developed framework based on Gaze Activation
Interacting with Holograms

- Make active use of LWRP facilities in Unity
- Touch interaction
- Smoothing movement
Lightweight Render Pipeline Example
Magic Mover

- HOD: “Hands-On Display”
- Haptic feedback
- Pick and move objects with near effortless motion
Thank You!!

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