A Framework For Networked Interactive Surfaces

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Introduction

- Software framework
- C/C++ (OpenGL for rendering)
- Easy developing of applications with support for:
  - Multi-touch interaction
  - Networked collaboration
Overview

- General System Architecture
- Event Passing Mechanism
- Creating Applications
- Examples
Architecture

• Three Layers:
  – Hardware Abstraction Layer
  – Central Server Layer
  – Application Layer

• Compiled as separate executables

• UDP communication
Architecture
Event Passing

Application 1

Application 2

Application 3

New Event → Event Handler

Event Request Message

Event Message

Event Multiplexer

Central Server
Event Passing Example
Event Passing Example

HAL

Touch points moved

Control Point Multiplexer

Event Multiplexer

Central Server

Event Handler

Widget Handler

Widget Implementation

New Force On 3D Object

Application Layer

ERM: AddForceOnObject

...
Creating Applications

• Inherit from basic widget class
• Add Application Logic
• Implement `Render()` function
• Optional:
  – Touch Point Events
  – Physics Updates
  – New Input
Example Applications
Example Applications
• Author homepage:
  http://research.edm.uhasselt.be/~tcuypers/

• YouTube:
  http://www.youtube.com/watch?v=FjDwIcN5omw
Questions?
Extern Libraries

- OpenGL → for rendering
- FFMpeg → for video loading
- DevIL → for image loading