A Technical Introduction

Presented by
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About the project

• See the previous talk
What is Overte?

- A 3D environment with VR support
- Runs on Linux, Windows, Mac
- Multiuser
- Modifiable at run time
- Scriptable
- Web-like architecture
- You can do anything you want with it
- Apache 2.0 License
- Similar examples: Second Life, VR Chat
About This Talk

- Covers several subjects quickly
- Introduces many concepts
- Takes some shortcuts
- Is intended to get people interested
- Or be a starting point for existing users
- Come to our Matrix/Discord for any help or qu
Watch the previous version!

• https://www.youtube.com/watch?v=1aow0FXHLNw
Today's Topics

1. Architecture
2. Compiling
3. Getting around
4. Content creation
5. Making a simple script
6. Running a server
7. Questions
**Server COMPONENTS**

**Domain Server**
Access Control, Security, & Configuration.

The domain server scales individual services based on load.

**Entity Server**
Dynamic content changes visible to all users in real time.

**Asset Server**
Asset server delivers viewer optimized LOD.

**Avatar Mixer**
MoCap streams mixed into viewer optimized stream.

**Audio Mixer**
Audio streams mixed into listener optimized spatialized streams

**Message Mixer**
Real-time Pub/Sub services allow for sophisticated multi-node applications.
Compiling
Compiling

• We have an AppImage and a Windows installer at:
  https://overte.org/#downloads
• We have a build script:
  https://github.com/overte-org/overte-builder
• It’s also easy to build from source by hand
overte-builder

- User-friendly build script
- Supports many Linux distributions
- Downloads the source code (master branch by default)
- Builds Qt if necessary
- Uses multiple cores automatically
Compiling from source

- $ git clone https://github.com/overte-org/overte
- $ mkdir build && cd build
- $ cmake ../overte
- $ make -j32
Getting Around
Content Creation
Making a Script
Modifying the C++ code
What We Learned

• The basics of scripting
• The basics of modifying the source code
• The basics of how to extend the scripting API
• It wasn’t that hard
Running a Server
Installing a Server

• Packages and documentation available at:
  https://docs.overte.org/en/latest/host.html

• Build with overte-builder:
  $ ./overte-builder --build=server
Running a Server From Source

- From the build tree:
  - Terminal 1: $ domain-server/domain-server
  - Terminal 2: $ assignment-client/assignment-client -n 6

- Starting individual assignment clients:
  - $ assignment-client/assignment-client

- Go to http://localhost:40100/settings to configure
Individual Assignment Clients

• Start like this:

    $ assignment-client/assignment-client -t $TYPE -p $PORT

• Types:
  • 0: audio mixer (mixes audio)
  • 1: avatar mixer (avatar presence)
  • 2: unused
  • 3: asset server (serves assets)
  • 4: message mixer (communication between scripts)
  • 5: entity script server (server-side scripting)
  • 6: entity server (objects)
Questions?

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https://discordapp.com/invite/Pvx2vke