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GStreamer training: Develop your own multimedia player

2 days (14 hours)

Presentation

Our GStreamer training course will enable you to create audio and video processing applications in C language. You'll be able to use numerous plug-ins to modify your application. It's a flexible, modular framework designed to be highly customizable. **GStreamer is** an open source, cross-platform and extensible framework providing a data pipeline-based multimedia file processing system. GStreamer is used in the creation of numerous applications such as desktop media players, live video broadcasters and embedded systems. The players created are compatible with all modern systems and encodings. In this training course, you'll learn how to use GStreamer to create your media player and configure its data pipelines. The course will be based on GStreamer version 1.22, the latest release.

Objectives

- Configuring and installing GStreamer
- Coding a media player application
- Customize your application

Target audience

- **Developers**
- System integrators

Prerequisites

- C basics

GStreamer training program

Introduction and installation

- **Compilation and installation**
- Initialize internal structures
- Plug-ins
- gst_parse_launch
- playbin

GStreamer concepts

- Elements
- Pipeline
- Properties
- GStreamer Bus
- Linking elements

Dynamic pipelines

- **Signals**
- Callback
- GStreamer State
- Pads
- Customdata

Time Management

- User Interface refreshing
- Message Pump
- GST_Time_forma
- GstSeekFlag
- Position and

GUI Toolkit

- GDK Headers
- GTK +
- GUI refresh

Media formats and Pad

- Pads capabilities
- Templates
- Inspection
- GST element Factory

Multithreading and Pad availability

- Multithreading
- Query pad
- Cue elements

Pipeline short-cut

- Buffers
- Waveform generator
- Data injection
- appscr

Media information

- GStreamer Discoverer
- URI

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.