



MAFW

The Media Application Framework for Maemo

Iago Toral

itoral@igalia.com





MAFW == MIDAS

About myself

Member of Igalia since 2003.

Became a partner of the company in 2005.

Member of the build-brigade.

<http://live.gnome.org/BuildBrigade>

<http://build.gnome.org>

Developer of MAFW.

Interested in contributing to GStreamer.

Index

Introduction to MAFW

Main concepts

Architecture & Design

Benefits & Limitations

Distribution and Licensing

Collaborate

Porting

Introduction

Introduction to MAFW

Media Application Framework for Maemo.

Another multimedia framework?

It is not a replacement for GStreamer.

Aggregation of **new media sources**.

Support for **multiple playback engines**.

Playlist management and **sharing**.

High level nature.

Plugin based architecture => extensible.

Open source => the community can help.

Main Concepts

Extensions

Source extension:

Filesystem, Tags, UPnP, Youtube, Bookmarks, etc

Renderer extension:

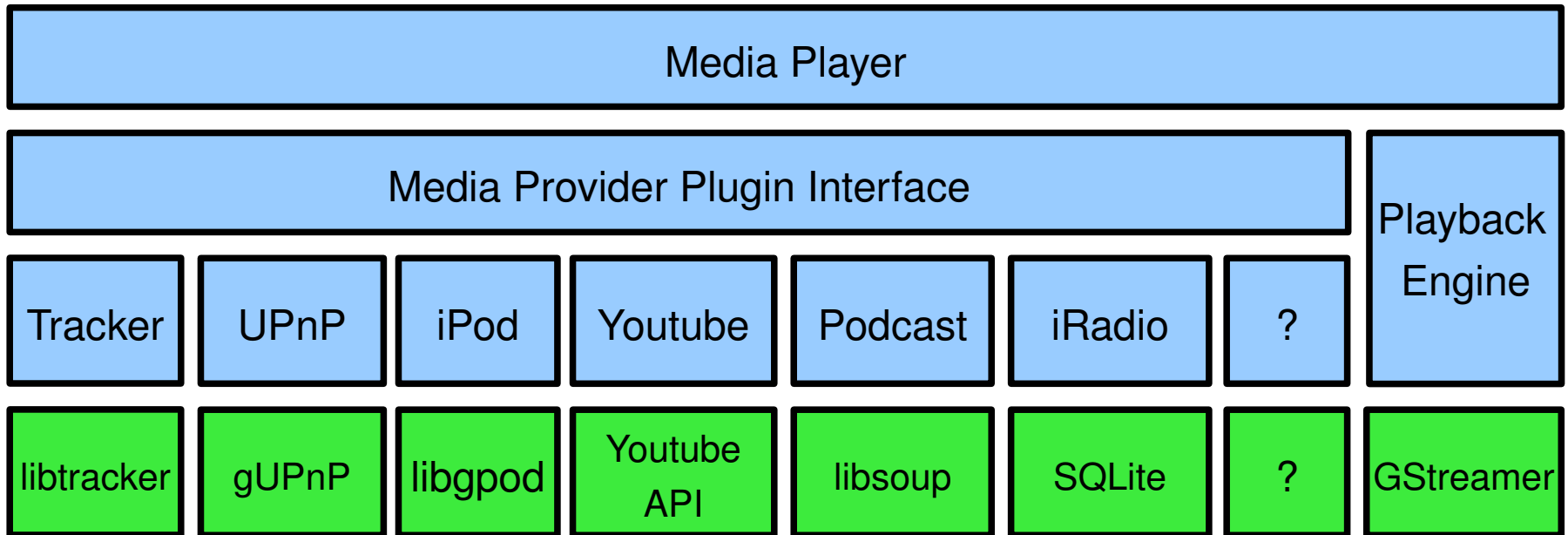
GStreamer, Xine, UPnP, etc

(Shared) Playlists

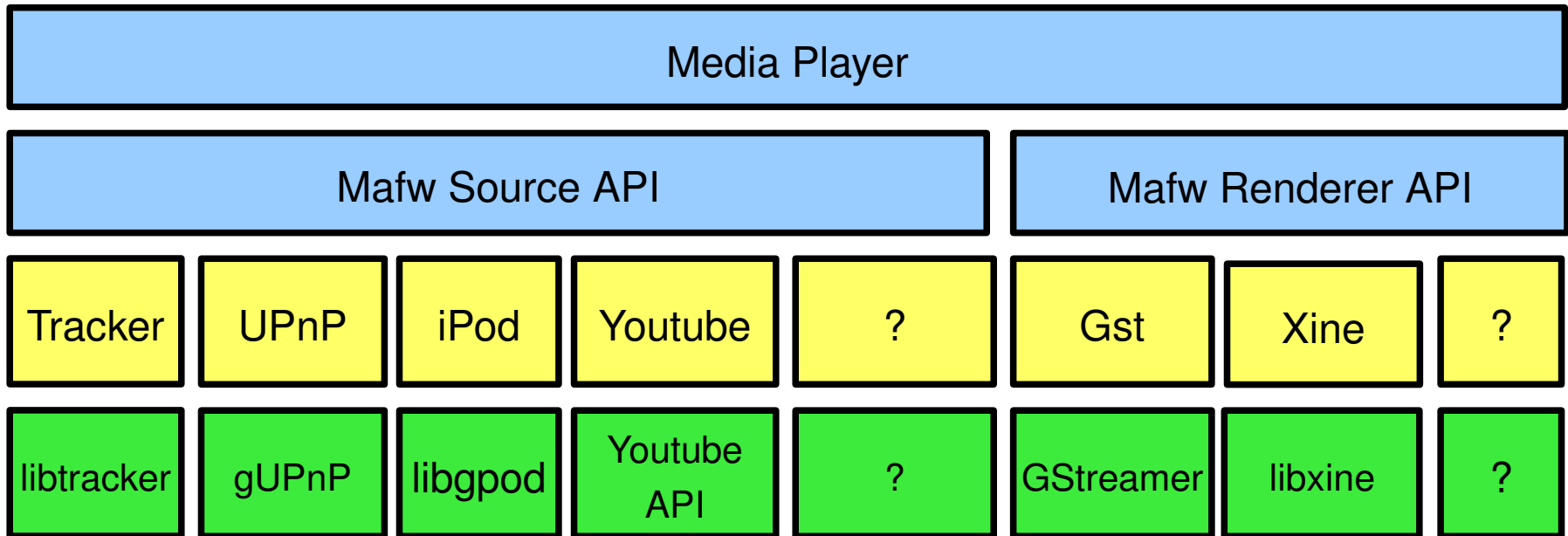
UI/Applet use case.

Edit/Play use case.

Main Concepts

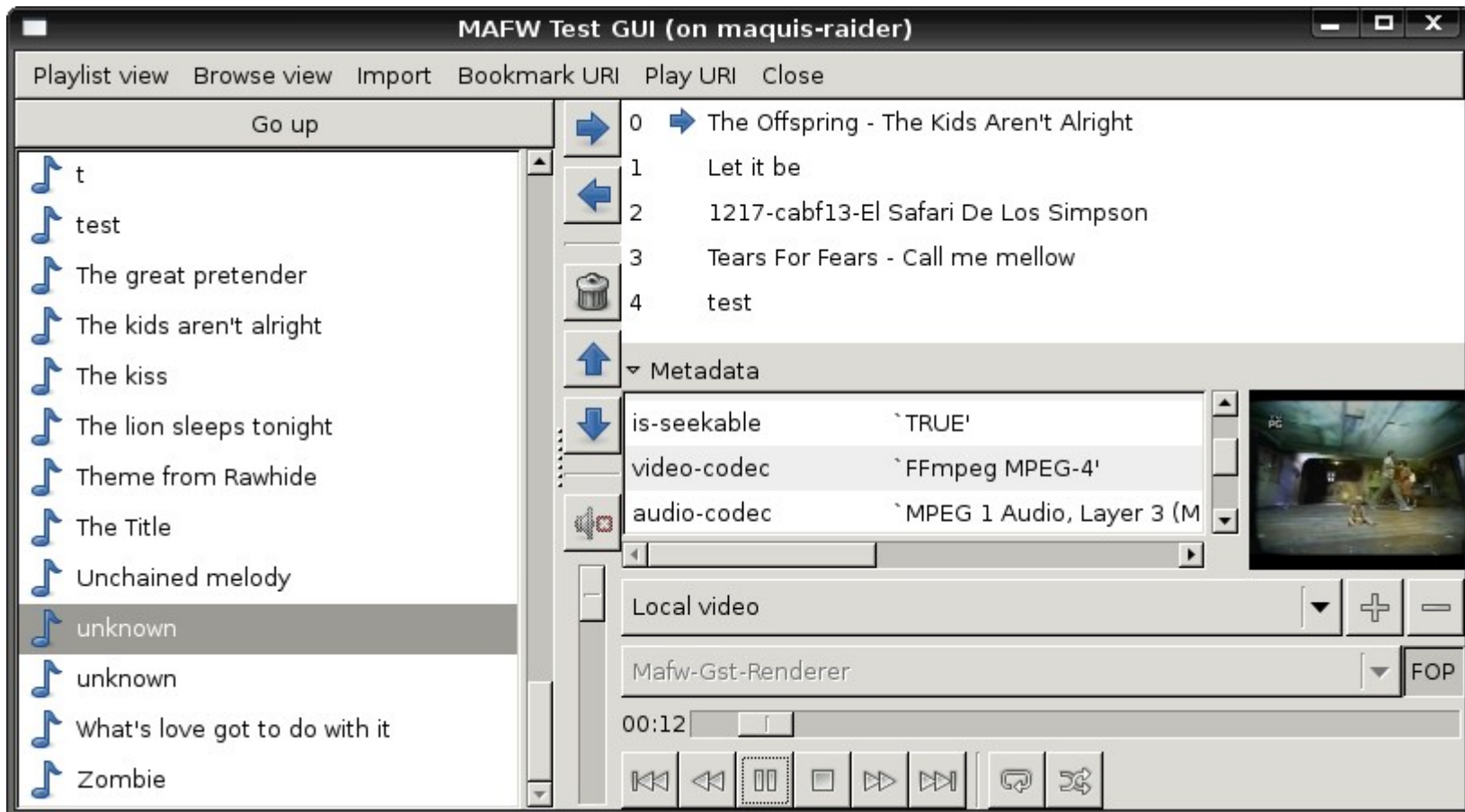


Main Concepts



- Application code
- Support libraries/services
- MAFW code

Quick Demo



Example: Browsing (I)

browse_id =

```
    mafw_source_browse (source,      /* Media source */
                        objectid,     /* What to browse */
                        FALSE,        /* Recursive? */
                        NULL,         /* Filter */
                        "",            /* Sorting */
                        keys,          /* Metadata Keys */
                        skip, cnt,     /* Offset & Count */
                        browse_cb,    /* Callback & user_data */
                        NULL);
```

Example: Browsing (II)

```
static void
browse_cb (MafwSource *source,
           guint browseid,
           gint remaining,
           guint index,
           gchar *objectid,
           GHashTable *metadata,
           gpointer user_data,
           const GError *error)
{
    /* Add this item to some view */
}
```

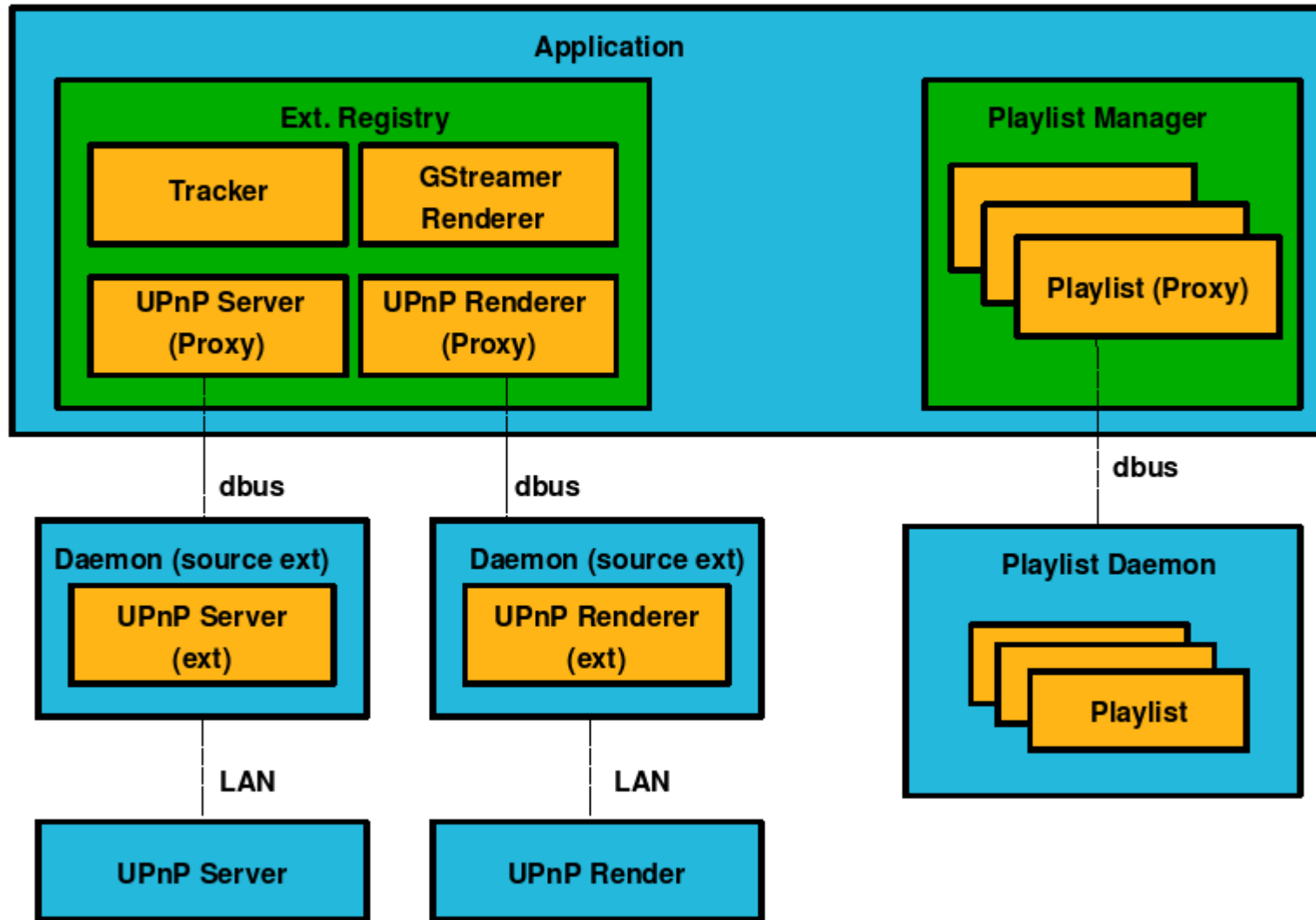
Example: Playback

```
g_signal_connect (renderer, "media-changed",  
                  G_CALLBACK (media_changed_cb), NULL);  
g_signal_connect (renderer, "state-changed",  
                  G_CALLBACK (state_changed_cb), NULL);  
g_signal_connect (renderer, "error",  
                  G_CALLBACK (error_cb), NULL);
```

```
MafwPlaylist *playlist = get_playlist ();  
mafwr_renderer_assign_playlist (renderer, playlist, &error);  
mafwr_renderer_play (renderer, play_cb, NULL);
```

Architecture & Design

Architecture



Design

Registry API:

Extension discovery and retrieval.

Source API:

Media discovery (browsing), query and manipulation.

Renderer API:

Playback control.

Playlist API:

Playlist creation, manipulation and sharing.

Benefits & Limitations

Benefits of using MAFW

Applications can be **extended easily**.

Media sources & rendering backends.

Just one API to learn: MAFW's.

Playlist support.

Open source: Powered by the community.

Limitations

Apps cannot **interact with the plugins directly** (they can write their own plugins though).

APIs may not be appropriate for all services.

Extensions are **limited to renderers and sources.**

Local playlists.

ToDo / Nice to have

Young framework, we need feedback.

We need more plugins.

Lack of language bindings.

Code cleanups.

Move code from plugins to base classes.

Distribution & Licensing

Distribution & Licensing

Core:

libmafw (LGPL v2.1): base classes, main concepts and API's.

mafw-shared (LGPL v2.1): proxies, dbus communications, ...

mafw-playlist-daemon & mafw-dbus-wrapper are GPL v2.

Plugins:

mafw-tracker-source (LGPL v2.1): Access to local media.

mafw-upnp-source (LGPL v2.1): Access to UPnP servers.

mafw-iradio-source (LGPL v2.1): Access to radio bookmarks.

mafw-gst-renderer (LGPL v2.1): Gstreamer based renderer.

Test GUI:

mafw-test-gui (GPL v2): A test ground for MAFW.

The background features a gradient of red and purple hues. A large, curved, light red shape sweeps across the lower-left portion of the frame, while the rest of the background is a darker, deep red. The word "Collaborate" is centered in the upper-middle part of the image.

Collaborate

Collaborate

The project lives in garage.maemo.org:

SVN repository.

Development is done directly in garage.

Documentation.

Bugzilla.

Patches, plugins, bindings, ...

Feedback is much appreciated (and needed).

Technology

Written in **C**, **Gnome/Freedesktop** based.

Core: Glib, GObject, DBus and friends.

Plugins:

mafw-tracker-source: Tracker.

mafw-upnp-source: GUPnP.

mafw-iradio-source: SQLite.

mafw-gst-renderer: GStreamer & PulseAudio.

Test GUI: GTK+ & Hildon.

Porting Applications

Porting

Port from Diablo to Fremantle.

Port to new version of GStreamer.

Port to MAFW.

Developing a new application.

MAFW in the desktop.

Thanks!

