

# Linux 網路多媒體應用設計

Brian Chen, Acer Product Value Lab

7/15/2008

acer

# Example : Acer Video Conference



**One-touch  
Video conferencing**



**True HD video conferencing**



**True 640x480 and 1280x720  
video conference viewing  
and versatile drag-and-drop  
PIP(Picture in Picture)**

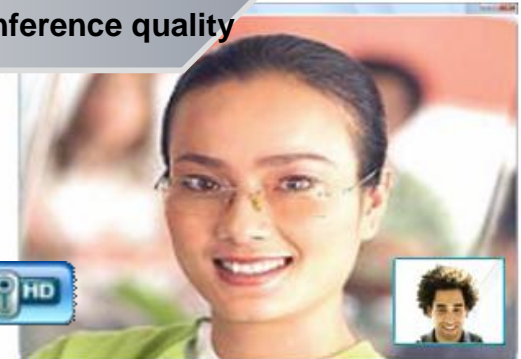
- Better quality of service
- Clearer, crisper video content
- Smoother video conference quality



**Typical WLM video  
window, up to  
320x240**



**Acer Video Conference  
using 640x480 with PIP**

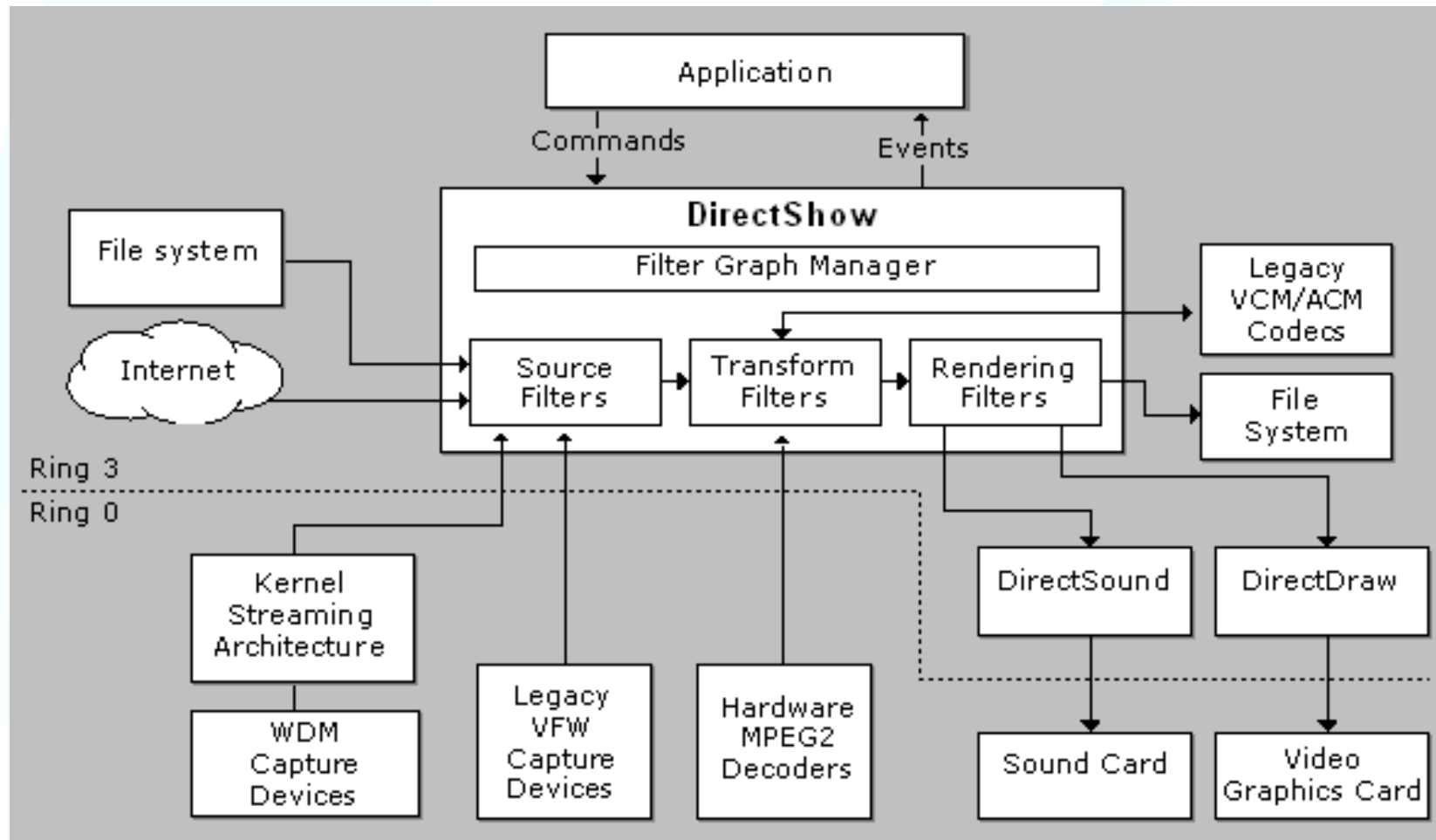


**Acer HD Video Conference  
using 1280x720**

# Challenges

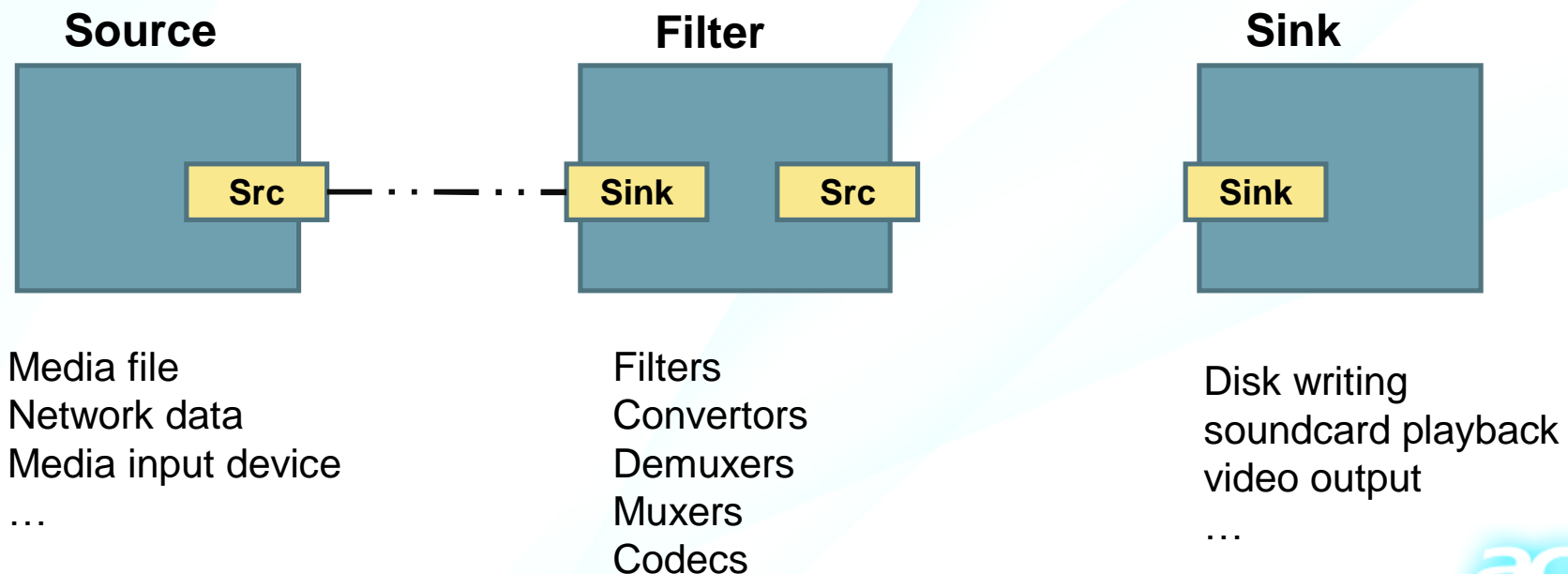
- How to connect real world and computer?
  - Process large data and Synchronize audio and video
  - Pipeline streaming diverse media formats from input to output devices
- Avoid general open source project issues
  - Duplicate code in a system
  - “One goal” media players/libraries
  - Non unified plug-in mechanisms
  - Bad User Experience

# How Windows does?



# The GStreamer

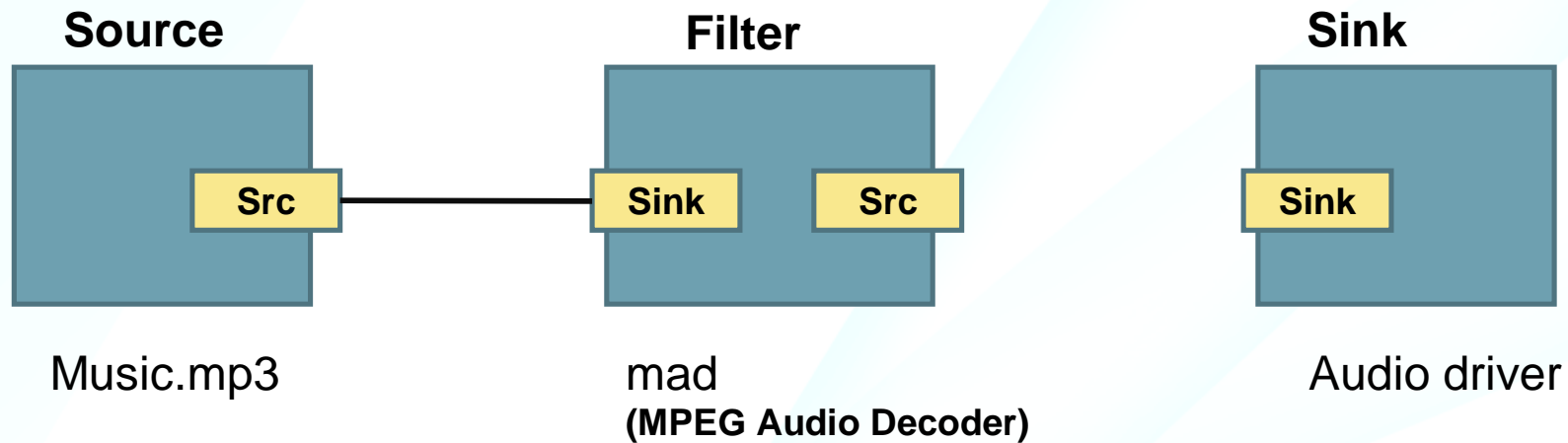
- A pipeline oriented multimedia framework for Linux
- For constructing of graphs of media-handling components.
- Developers can add new codecs and filters by writing a simple plug-in with a clean, generic interface



# Example : audio

- Enter this Command:

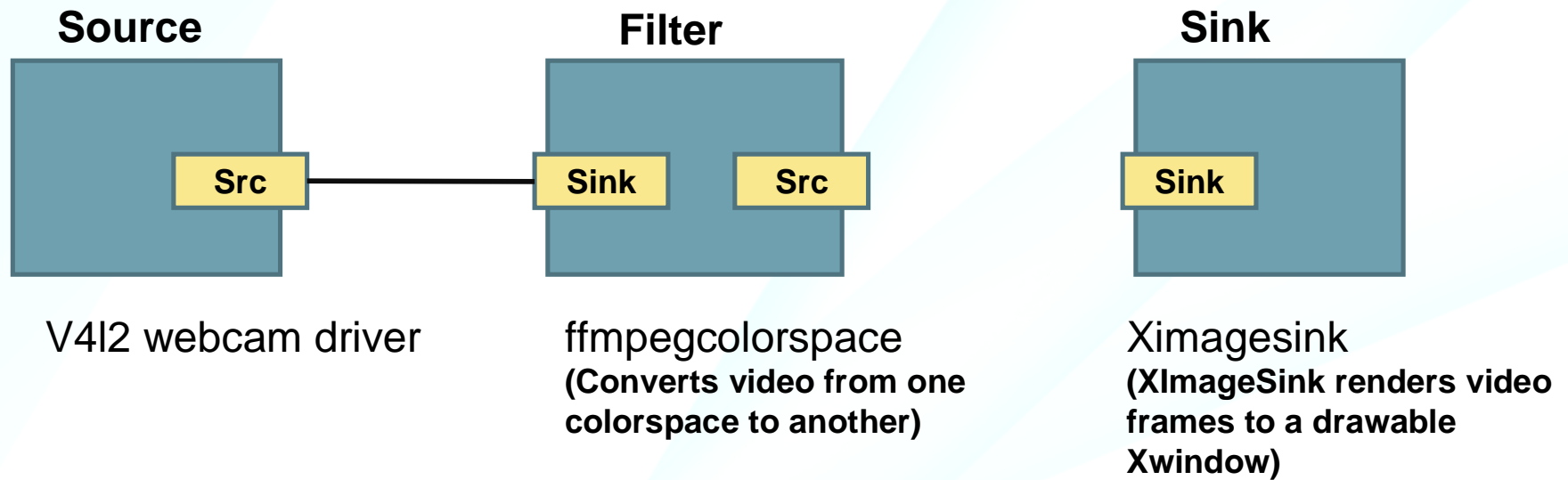
```
gst-launch filesrc location=music.mp3 ! mad ! alsasink
```



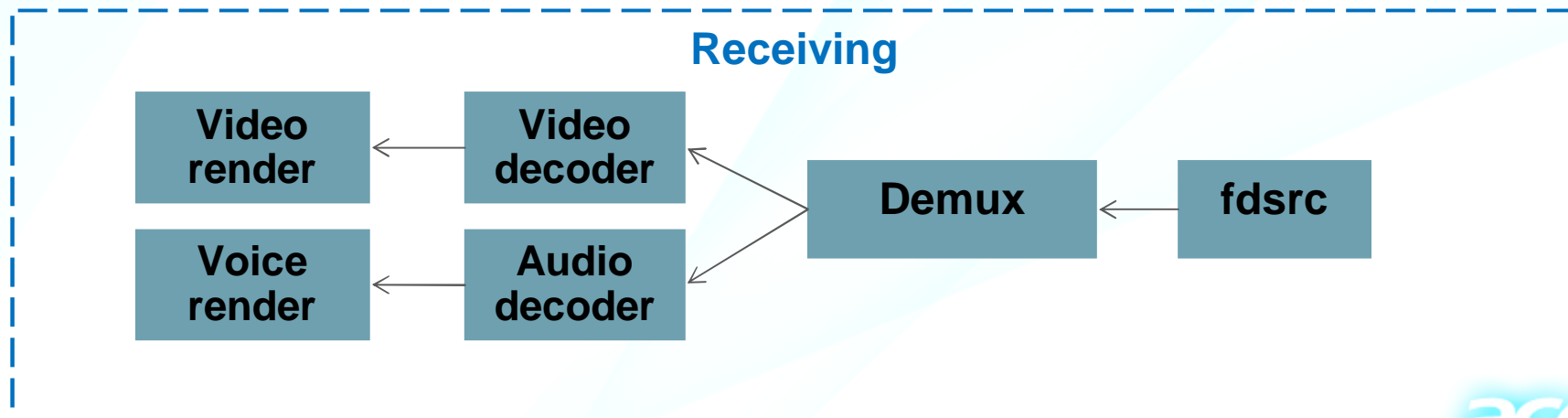
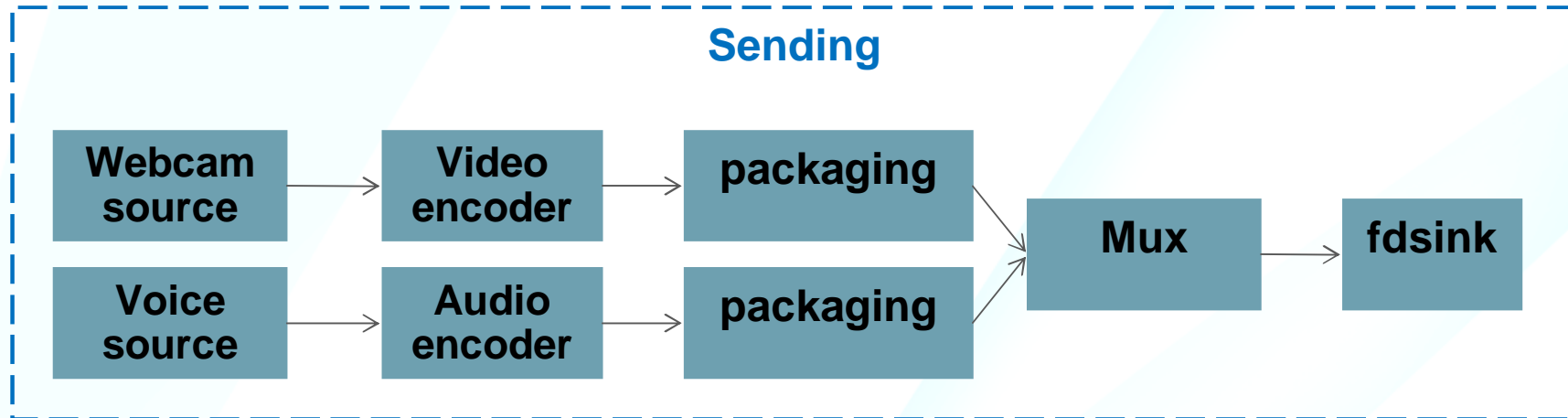
# Example : video

- Enter this Command:

```
gst-launch v4l2src ! Ffmpegcolorspace ! ximagesink
```



# A video call pipeline example



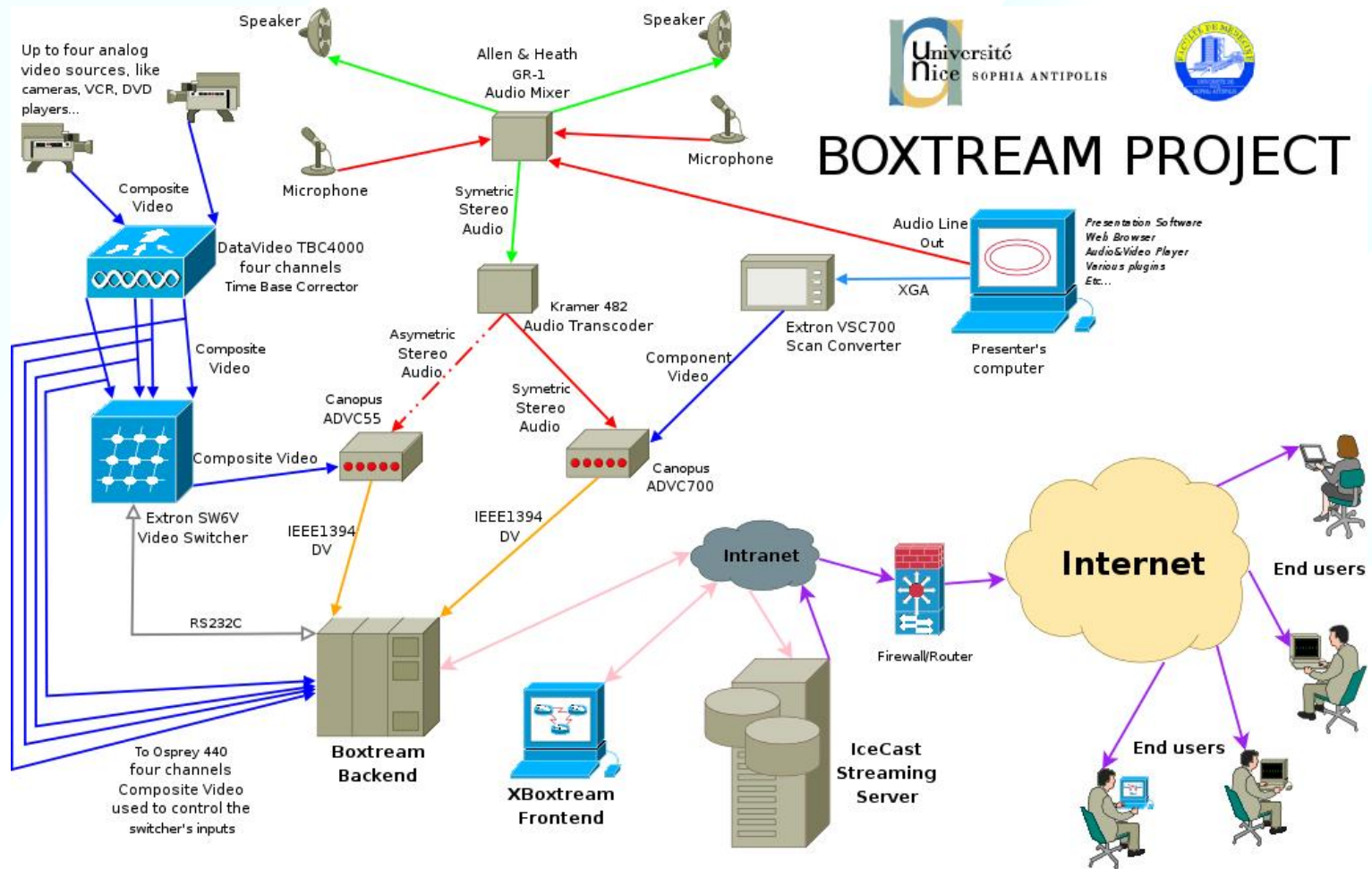
# Gstreamer Plugins

- **gst-plugins-good** :
  - contains a set of well-supported plug-ins under our preferred license
  - E.g. wav, CD, DV, jpeg, etc.
- **gst-plugins-bad** :
  - contains a set of less supported plug-ins that haven't passed the rigorous quality testing we expect
  - E.g. .dat file (VCD), Free AAC, etc.
- **gst-plugins-ugly** :
  - contains a set of well-supported plug-ins, but might pose problems for distributors, e.g. by reverse engineering
  - E.g. mp3

# Media Codec issues

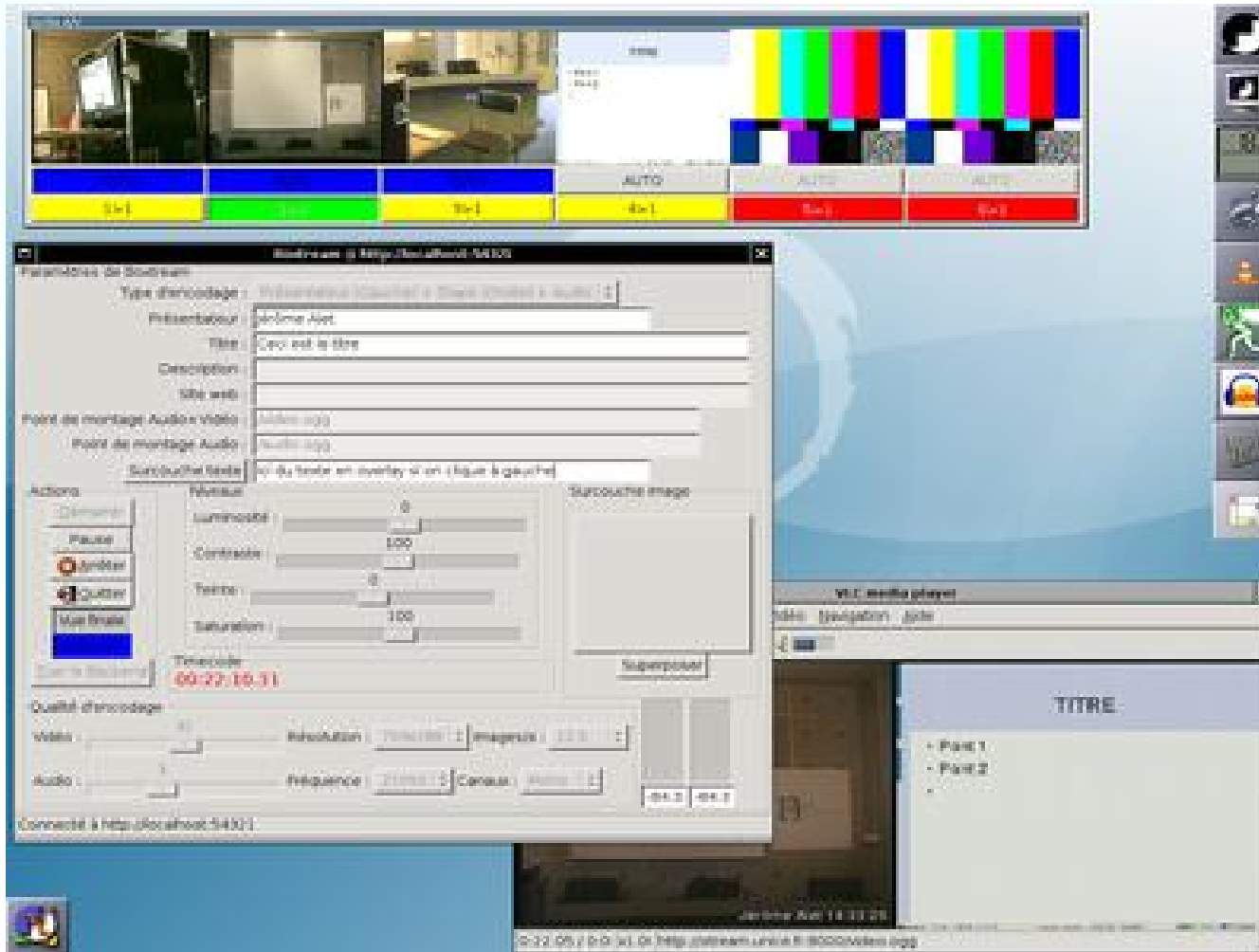
- **E.g. mplayer**
  - **Physical media:** CDs, DVDs, Video CDs
  - **Container formats:** 3GP, AVI, ASF, FLV, Matroska, MOV (QuickTime), MP4, NUT, Ogg, OGM, RealMedia
  - **Video formats:** Cinepak, DV, H.263, H.264/MPEG-4 AVC, HuffYUV, Indeo, MJPEG, MPEG-1, MPEG-2, MPEG-4 Part 2, RealVideo, Sorenson, Theora, WMV
  - **Audio formats:** AAC, AC3, ALAC, AMR, FLAC, Intel Music Coder, Monkey's Audio, MP3, RealAudio, Shorten, Speex, Vorbis, WMA
  - **Subtitle formats:** AQTitle, ASS/SSA, CC, JACOsub, MicroDVD, MPsub, OGM, PJS, RT, Sami, SRT, SubViewer, VOBSub, VPlayer
- **Cost? Patent? Legal?**

# Boxtream : a Free video streaming solution



## BOXTREAM PROJECT

# Boxstream Frontend



# Banshee

Synchronize an iPod, and other media player

iTunes music sharing(DAAP plugin)

The screenshot shows the iTunes interface with the 'Banshee Music Share' library selected. The left sidebar lists various sources, and the main pane displays a list of tracks from the Banshee Music Share library.

Track	Artist
1	Lifescapes
1	Scapegoat
2	Scapegoat
3	Scapegoat
4	Scapegoat
5	Scapegoat
6	Scapegoat
7	Scapegoat
8	Scapegoat
9	Scapegoat
10	Scapegoat
11	Scapegoat
12	Scapegoat
13	Scapegoat
14	Scapegoat

The screenshot shows the iTunes synchronization window for an iPod. The 'Synchronizing iPod' section is active, showing a progress bar at 40% and the track 'Led Zeppelin - Stairway To Heaven' being synchronized. The source 'Aaron's Photo...' is selected in the library list.

# Rhythmbox



Music Edit View Control Help

Play Previous Next Repeat Shuffle Browse Visualization Purchase Album Purchase Physical CD

**The man I create** by *Mercy Machine* from *The Devil I Know* 0:22 of 4:09

Library

- Play Queue
- Music
- Podcasts
- Radio
- Stores
  - Jamendo
  - Magnatune**
- Playlists

Search:  All Artists Albums Titles

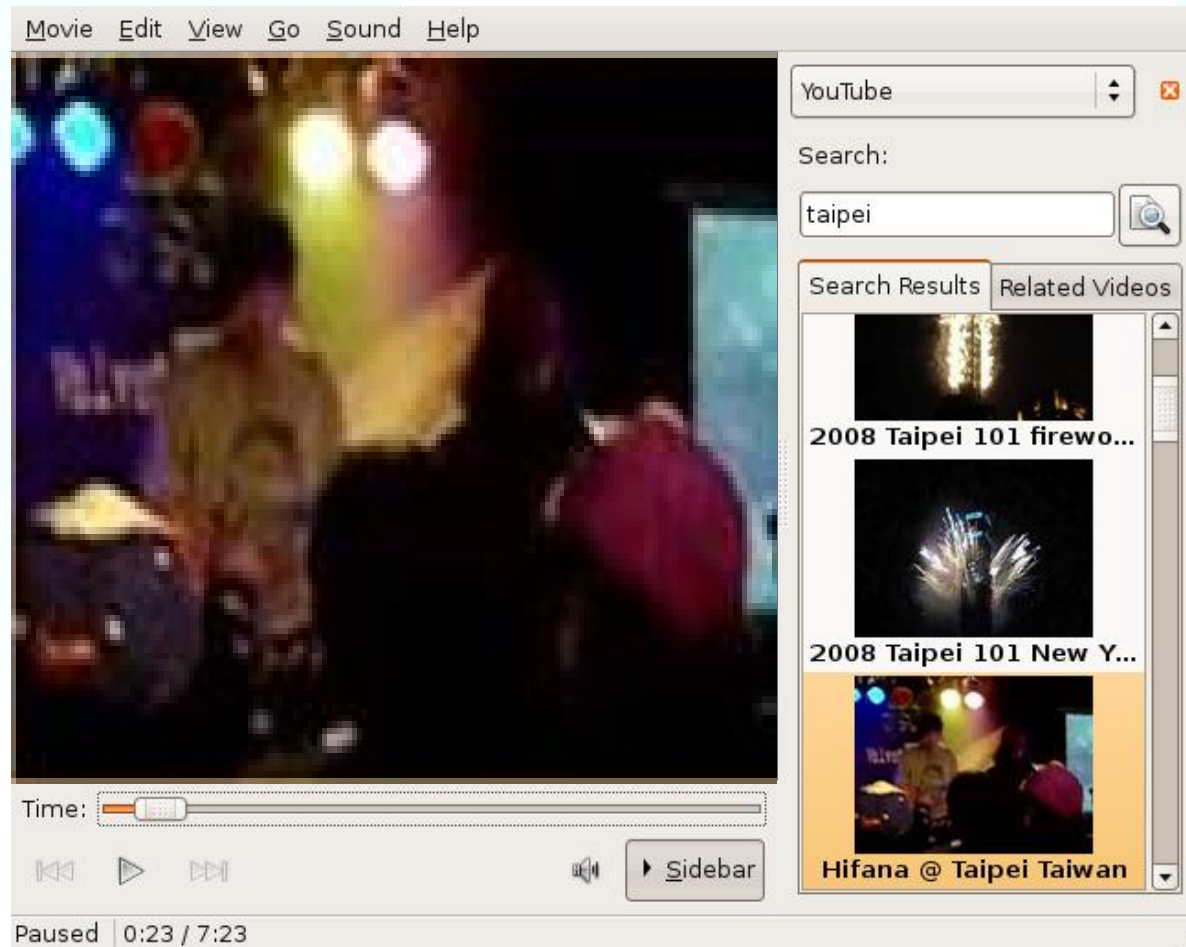
Artist: **All 244 artists (7804)**  
 Altri Stromenti (36)

Album: **All 556 albums (7804)**  
 5 and 6 part Fantasies of William Lawes (6)

Track	Title	Genre	Artist	Album	Time
6	jig in the Parlor	Ethnic	Michael Masley	Cymbalennium	2:25
5	Longshot Zoom	Ethnic	Michael Masley	Cymbalennium	9:09
4	Hubble Kaleidosc...	Ethnic	Michael Masley	Cymbalennium	8:33
3	Stringfed Stream	Ethnic	Michael Masley	Cymbalennium	8:07
2	Tip of the Icebird	Ethnic	Michael Masley	Cymbalennium	3:34
1	Kubrick's Tube	Ethnic	Michael Masley	Cymbalennium	3:51
9	<b>The man I create</b>	Rock	Mercy Machine	The Devil I Know	4:09
8	Winter lady	Rock	Mercy Machine	The Devil I Know	3:27
7	Orlando	Rock	Mercy Machine	The Devil I Know	4:22
6	The midnight bower	Rock	Mercy Machine	The Devil I Know	4:07

7804 songs, 21 days, 6 hours and 36 minutes

# Totem



# Ubuntu 常用軟體 (<http://wiki.ubuntu.org.tw>)

## 電台播放

- [Hinedo - 網路電台播放程式](#) - 收聽國內廣播電台
- [BMPx \(Beep Media Player eXperimental\) - 音樂/網路電台播放程式](#) - 收聽國外廣播電台、Podcast

## 電視播放

- [gmlive - 網路電視播放程式](#) - 收看國內、國外電視節目。mms、sopcast、nslive 列表

## 音樂播放

- [Xmms2 - 音樂播放程式](#) - 利用播放清單管理曲目，類似 winamp
- [Amarok - 音樂播放程式](#) - 可依歌手、專輯分類管理，類似 iTunes
- [Floola - iPod音樂擷取或播放](#)
- [BMPx \(Beep Media Player eXperimental\) - 音樂/網路電台播放程式](#) - 音樂播放、收聽國外廣播電台、Podcast。可以清單播放、分類播放音樂
- [Banshee - 音樂播放程式](#)

## 影音播放

- [RealPlayer for Linux - 影音播放程式](#)
- [Totem - 影音播放程式](#) - Ubuntu 預設的影音播放軟體
- [SMPlayer - 影音播放程式](#) - 可快轉前進、後退，快轉時可照常同步播音
- [xine - 影音播放程式](#) - Linux 下著名影音播放器
- [KMPlayer - 影音播放程式](#) - 全名 K Media Player (K 媒體播放器)，和某姜氏多媒體播放器無關
- [Kaffeine - 影音播放程式](#) - K 系列的多媒體播放器

# Aspire one <http://www.acer.com/aspireone/>

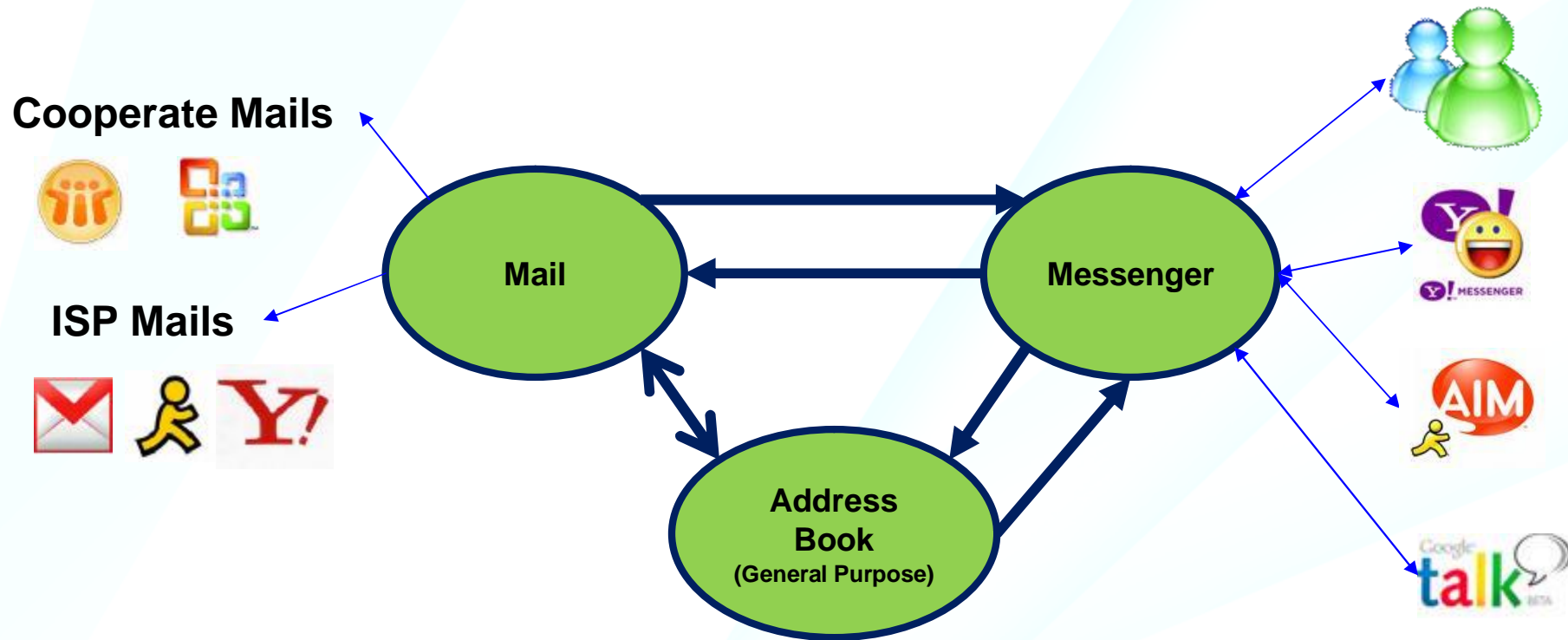


# Acer Communication Suite v1.0

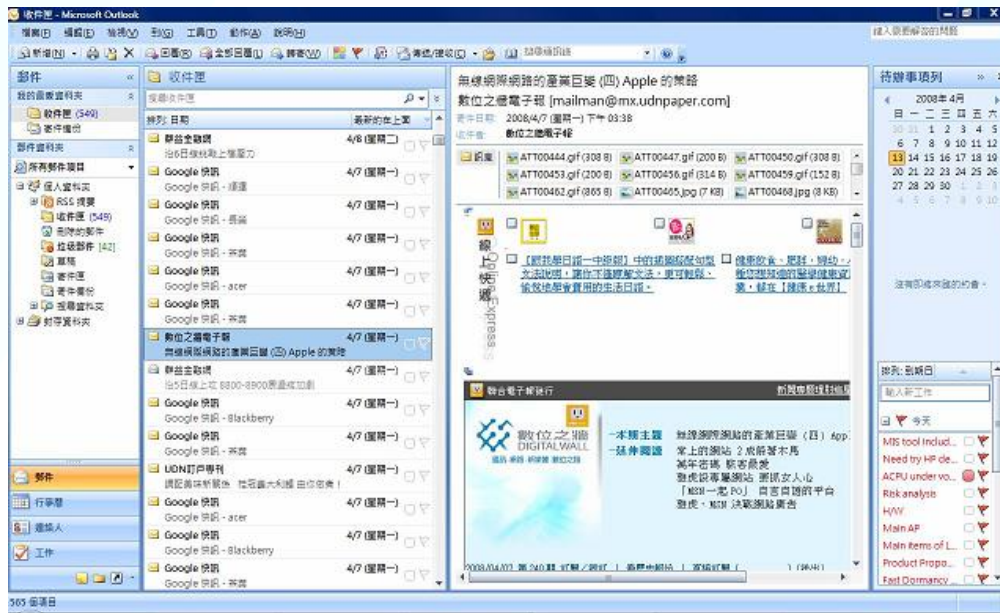
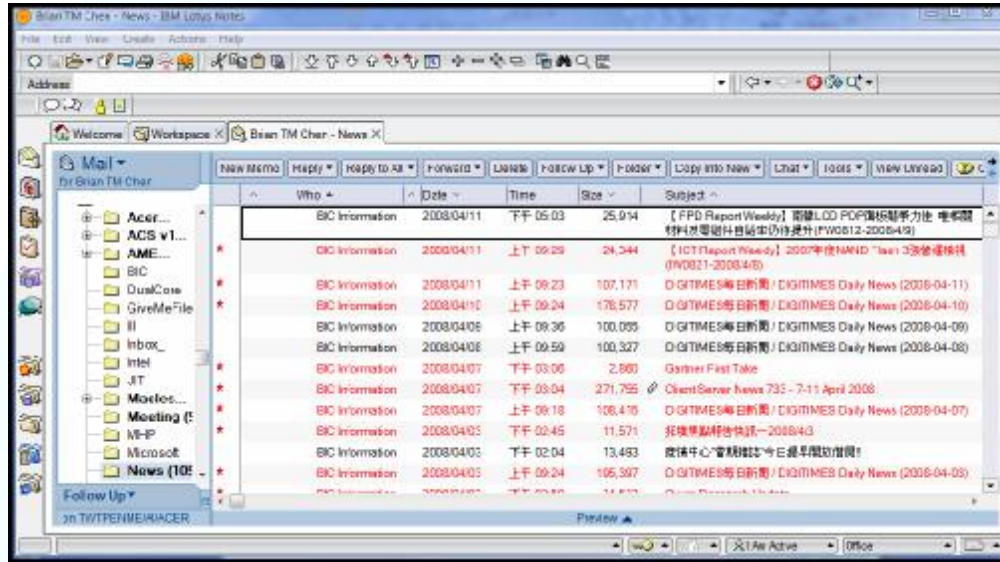
- ACS v1.0 is an integrated messaging center including Messenger, Mail, Contacts and Calendar, and RSS reader.
- For Aspire one
  - Lower computing power
  - Less RAM size
  - Less storage size, e.g. flash memory



# Design Concept: Integration of Presence & Message



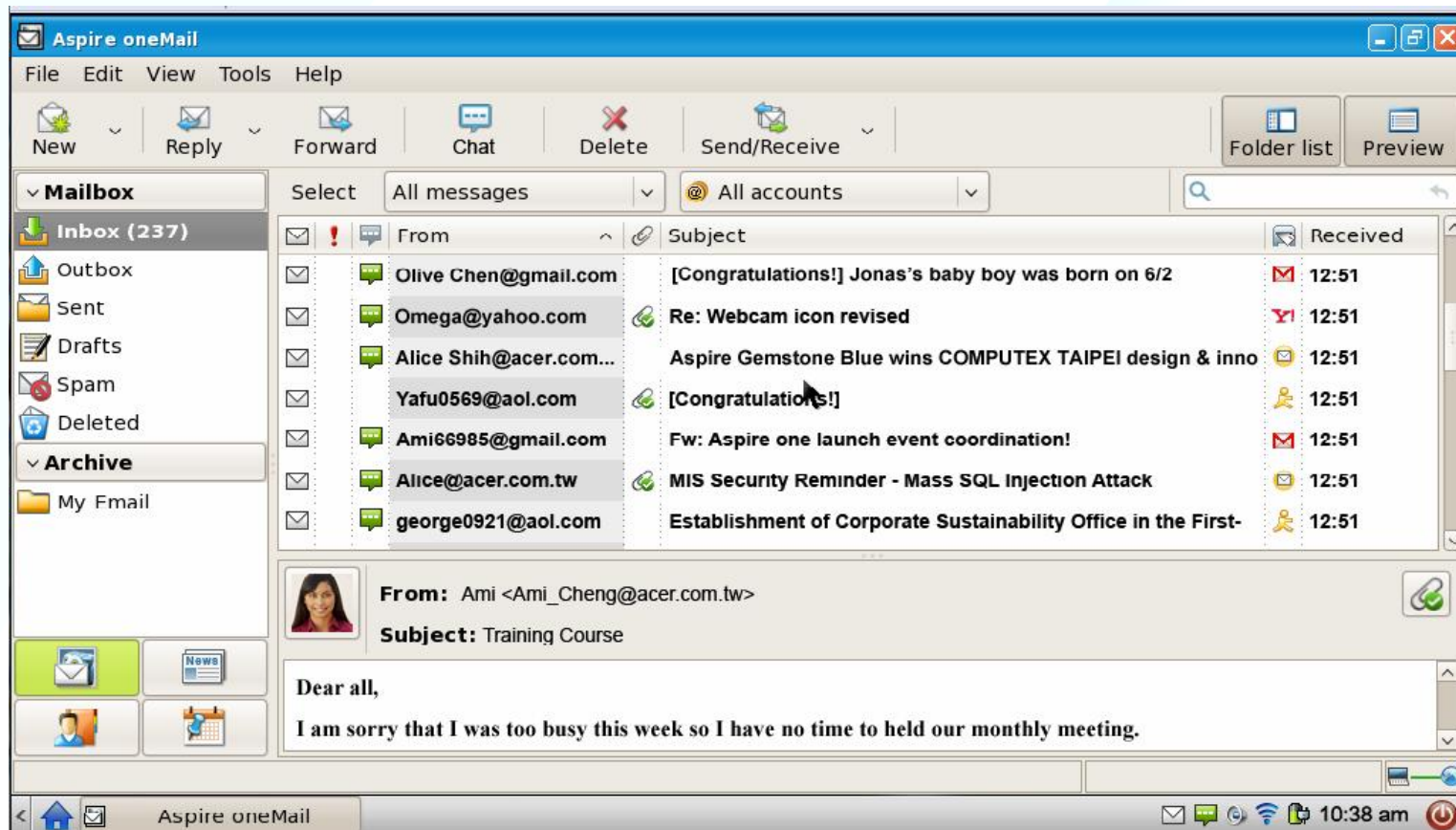
# Design Concept: Reduce UI Complexity



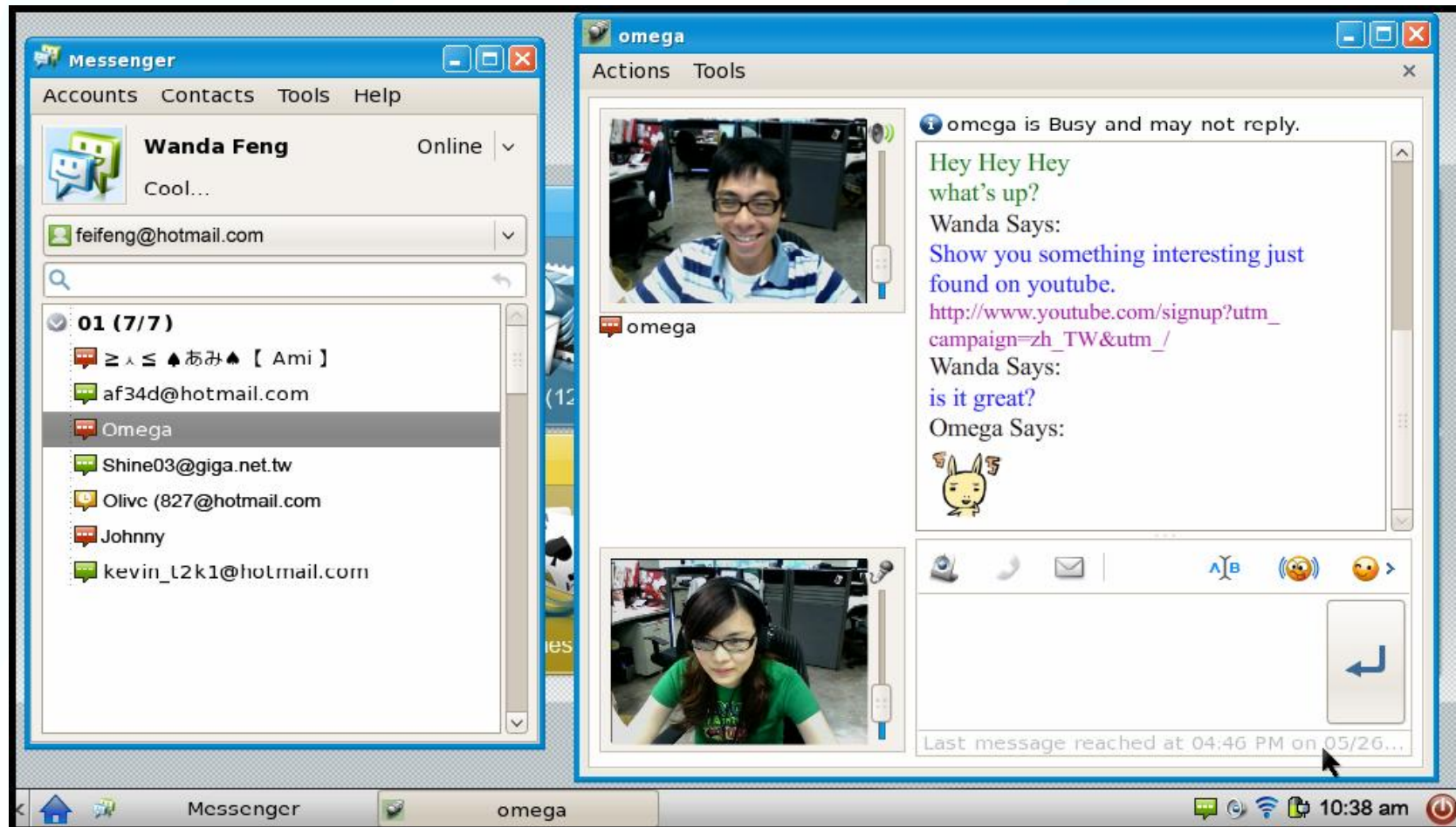
# Features

- **Easy of Use**
  - Easy set up
  - Easy Management of e-mails by One Mail Box.
  - Consumer Oriented UI
- **Push Like Experience**
  - Get important mail notification without launching the email client.
  - Set to receive important mail only.
- **Best Compatible Instance Message**
  - Acer Cross functions
  - Provide V2oIP

# Aspire one Mail



# Aspire one Messenger



## Conclusion

- Leverage Open Source & Community
- General & popular infrastructure/framework
- Pay more attention on usability design and innovation