



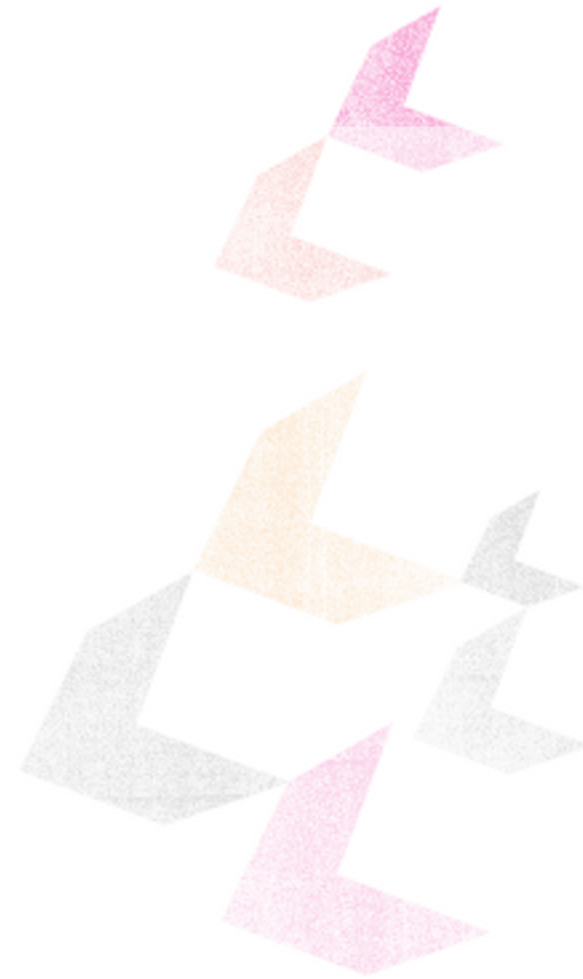
# Airtime: Scheduled Audio Playout for Radio

Linux Audio Conference, 2011  
Dublin, Ireland

Paul Baranowski, Toronto  
CTO, Sourcefabric

# Outline

- Sourcefabric
- Airtime
  - Overview
  - Demo
  - Backend
- History of Project
- Roadmap
- Resources

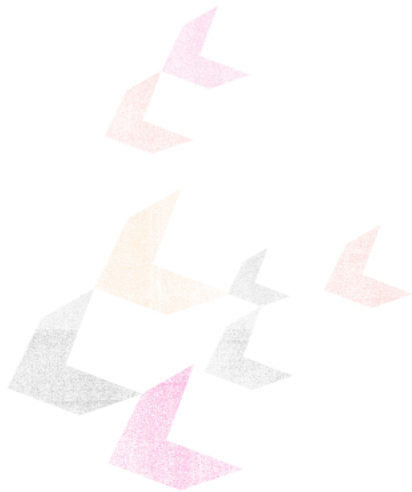


# Sourcefabric

- Non-profit
- Incorporated May 2010 (Happy 1st anniversary!)
- Funded by private & public grants
- Born out of another non-profit called the "Media Development Loan Fund"

# Sourcefabric: Purpose

Promote freedom of speech  
and open transparent society



# Sourcefabric: Method

Provide media organizations with the open source software and support to produce quality, independent journalism

# Products

## **Airtime**

Remote controlled automated radio broadcasting

## **Newscoop**

Online news publishing for enterprise news orgs

# Airtime Overview

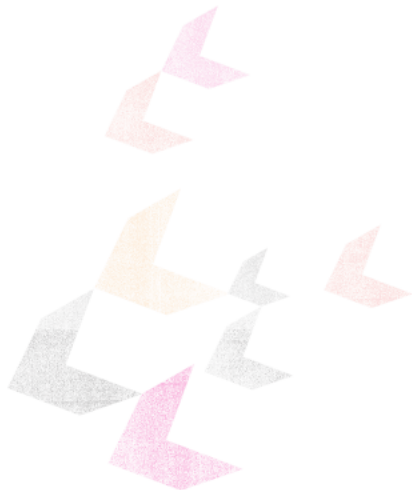
## Long Term Goal

Run the audio of a radio station over the web

# Airtime Overview

## Short Term Goal

Automation & Collaboration first





# Airtime Workflow

- Program manager
  - creates "shows" (time slots) for DJs
  - record a live show, upload to Soundcloud, rebroadcast
- DJs fill their shows with audio
- Anyone can monitor what is happening

# Airtime Demo

# Multi-file Upload



# Playlists:

Drag & Drop Reordering

Automatic Saving

Sub-second precision

Cue in & out -- Fade in & out



# Shows

One-off / Repeating Shows

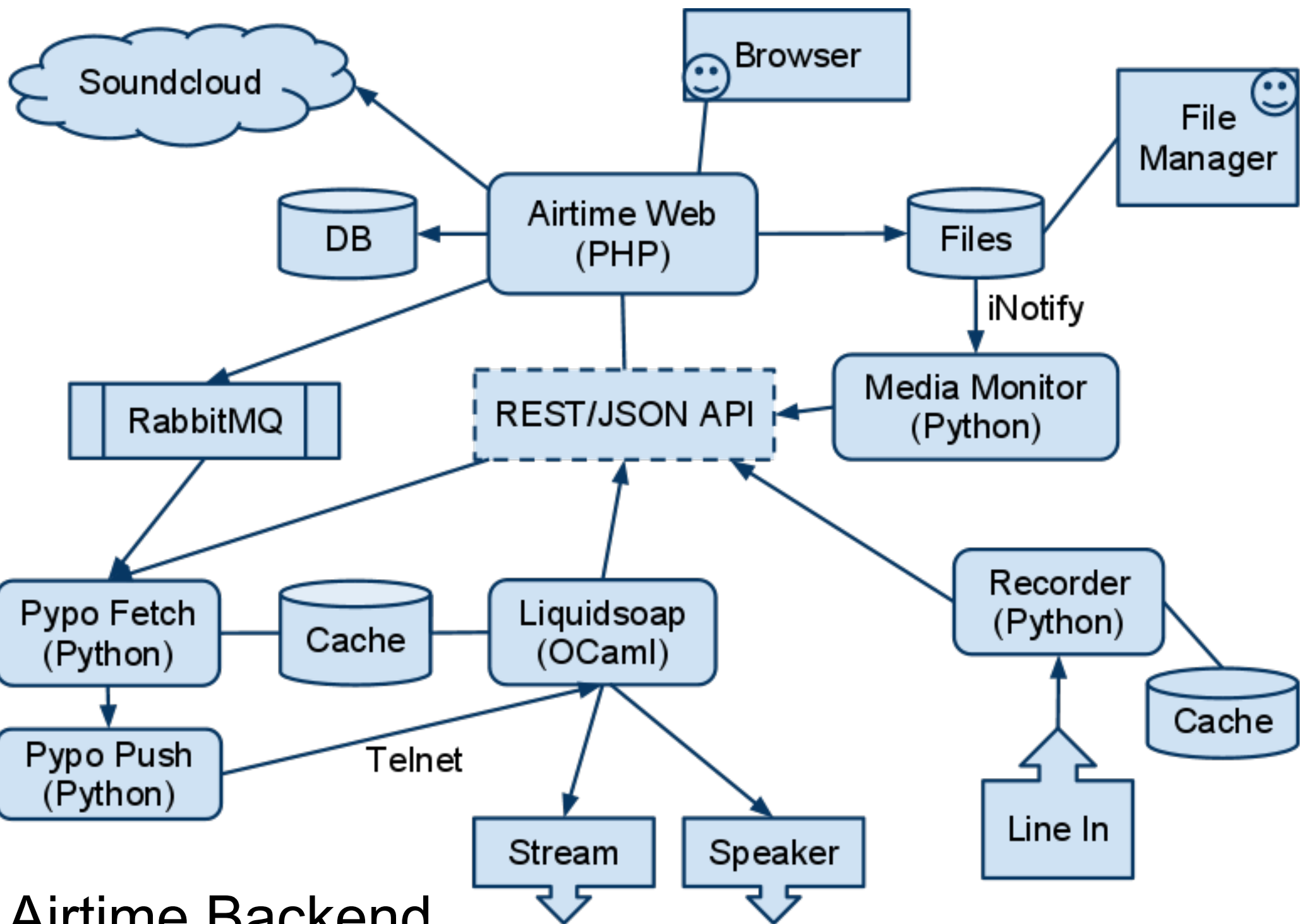
Record

Rebroadcast

User Rights

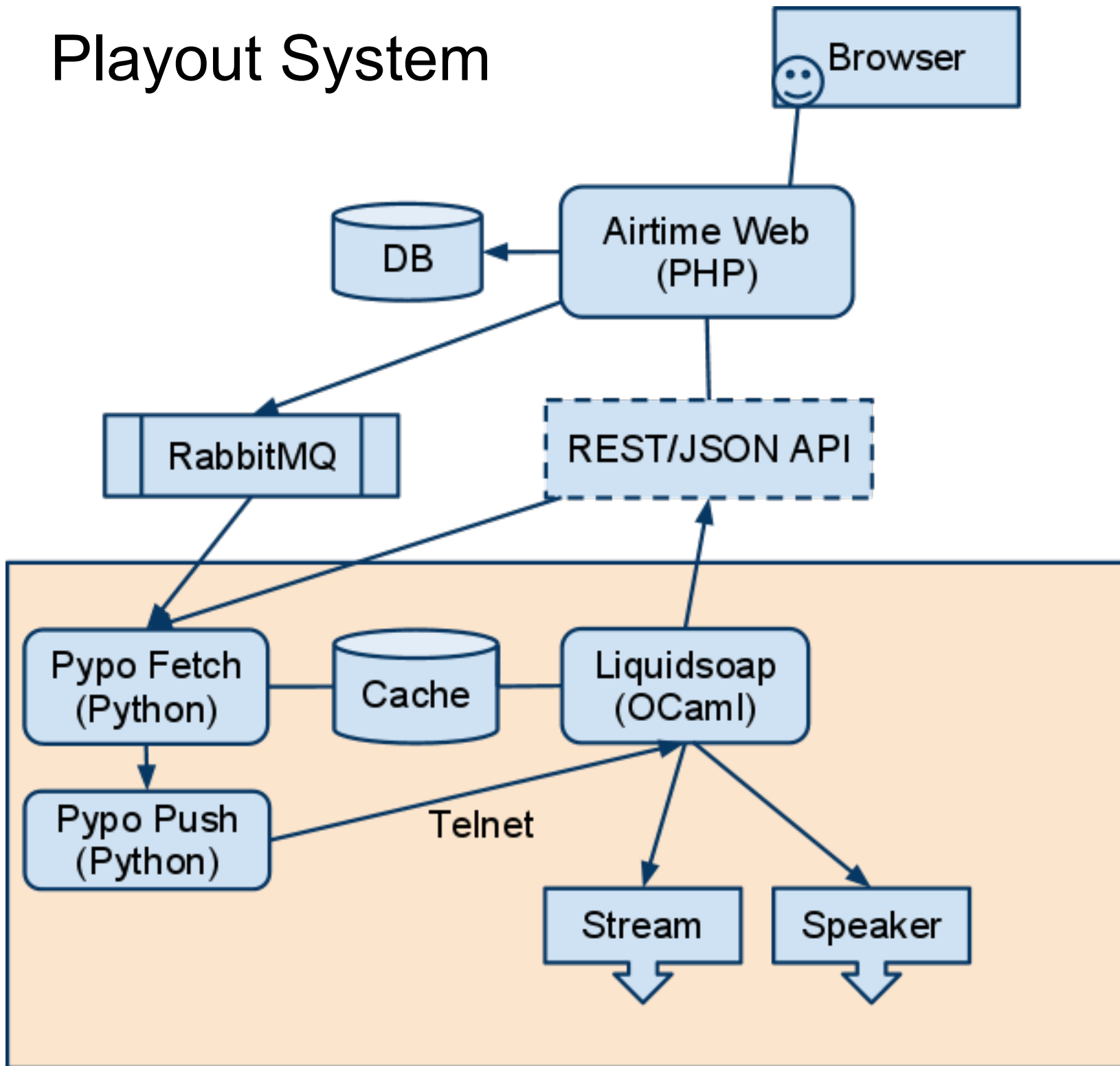
Playlists are copied

# Airtime Backend



Airtime Backend

# Playout System





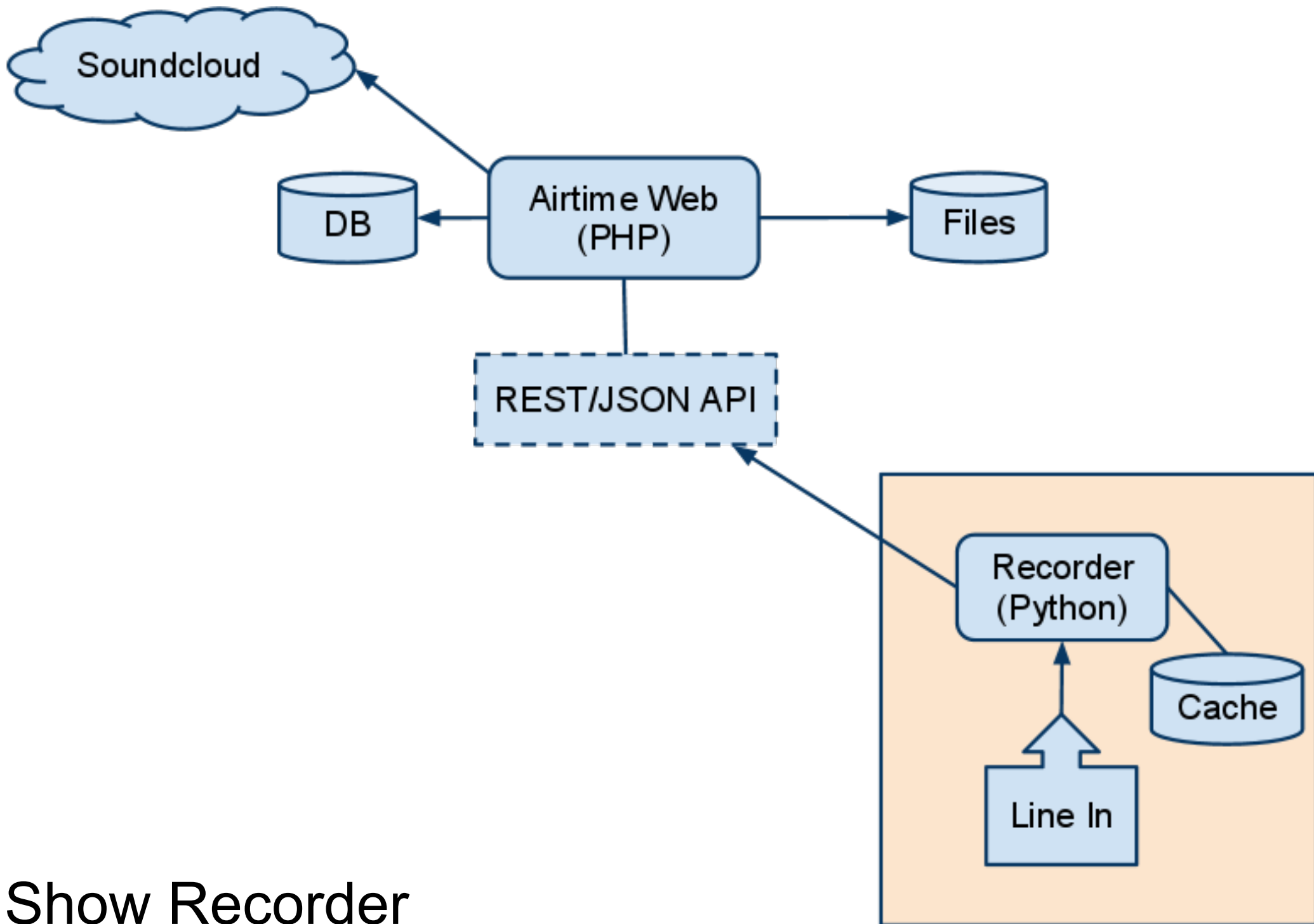
# REST/JSON API

## Example REST URL:

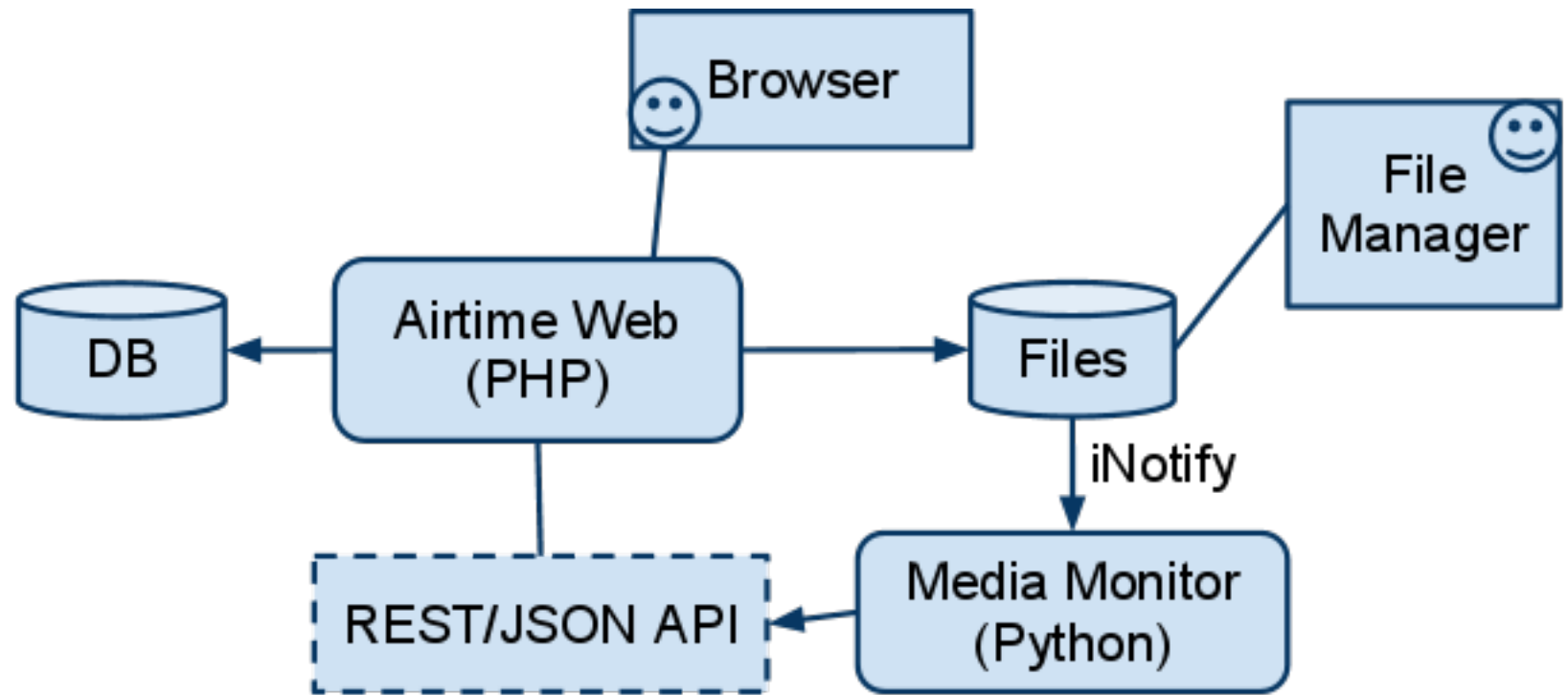
[http://localhost:80/api/schedule/api\\_key/YW8WDVV74923EAJGVL2Y](http://localhost:80/api/schedule/api_key/YW8WDVV74923EAJGVL2Y)

## JSON Result:

```
{"2011-05-06-14-45-00": {"user_id": 0, "played": "0", "timestamp": 1304689500, "show_name": "Test Show 3", "medias": [{"fade_out": 1000, "fade_cross": 0, "export_source": "scheduler", "uri": "http://localhost:80/api/get-media/file/451517be004a53c0dca7d76d1825e241.ogg", "cue_in": 0, "row_id": "119", "cue_out": "0", "id": "451517be004a53c0dca7d76d1825e241", "fade_in": 1000}], "start": "2011-05-06-14-45-00", "id": "12", "x_ident": "12", "source": "PLAYLIST", "schedule_id": "12", "show_start": "2011-05-06-14-45-00", "subtype": "1", "duration": "00:05:07.48", "end": "2011-05-06-14-50-07", "show_end": "2011-05-06-15-45-00"}}
```



Show Recorder



# Media Monitor



# History of Airtime

# Ancient History of Airtime

- Grant into 2003 from OSI
- Versions 1.0-1.3 developed 2004-2005
- Started life as "LiveSupport", then "Campcaster".
- Some features included:
  - Desktop app
  - Web App
  - P2P file & playlist sharing
  - Import/Export playlists
- Development halted in 2005 with demo version available

# What went wrong way back then?

- Two products that did the *same* thing: a desktop app and a web app. *Implemented everything twice!* Very difficult to change things.
- Built their own playout engine
- Overengineered
- Waterfall model of development
- Used C++ for GUI
- Long release cycles

# How did we fix it?

- Restarted development in August 2010
- Business
  - Dropped the desktop app
  - Focused on a minimal viable product
  - Focused on the unique value-add areas
- Process
  - Short iterations: 2-6 weeks
  - Listened to customers and users
  - Focused on developing a community
- Tech
  - Moved to Zend Framework, JQuery
  - Loosely coupled components
  - Replaced custom audio player with Liquidsoap
  - Dynamic languages (Python)



# The Future of Airtime



# Roadmap - Short Term (1-3 months)

- Access to files through the filesystem (1.9)
- Doctrine ORM instead of Propel (2.0)
- Internationalization (2.0)
- Webstream rebroadcasting (2.1)
- More complete RESTful API (2.0-2.1) -- allows 3rd party addons

# Roadmap - Medium Term (3-9 months)

- UI Improvements
- Ad management
- Better media metadata
- Advanced Search (Genre, BPM, etc)
- Better Soundcloud integration

# Roadmap - Long Term (9 months+)

- Live Shows
- Video



# Airtime Resources



Naomi  
Aro



Martin  
Konecny



James  
Moon

Developer Team





## AIRTIME



### Introduction

#### What is Airtime?

### Installation

#### Preparing the server

#### Automated installation

#### Manual installation

#### Setting the server time

#### Using the import script

### Using Airtime

#### Getting started

#### Managing users

#### Now playing

#### Add media

#### Playlist builder

#### Calendar

#### Help

### Appendix

#### Time zones

#### About this manual

next →

## What is Airtime?

[Airtime](#) is the open broadcast software for scheduling and remote station management. Web browser access to the station's media archive, multi-file upload and automatic metadata verification features are coupled with a collaborative on-line scheduling calendar and playlist management. The scheduling calendar is managed through an easy-to-use interface and triggers playout with sub-second precision.

| Date                                       | Start       | End         | Duration    | Song                                  | Artist           | Album                | Playlist     | Show                  | Status |
|--|-------------|-------------|-------------|---------------------------------------|------------------|----------------------|--------------|-----------------------|--------|
| Airtime Tea-Time Show: 15:20:00 - 15:50:00 |             |             |             |                                       |                  |                      |              |                       |        |
| 2011-03-30                                 | 15:23:21.90 | 15:28:52.51 | 00:05:30.60 | Fuego Camina Conmigo                  | Bautista, Daniel | 15                   | Airtime Show | Airtime Tea-Time Show |        |
| 2011-03-30                                 | 15:28:52.51 | 15:32:40.66 | 00:03:48.15 | I'm perfect for you (russian version) | Minsvepa         | Carpenter            | Airtime Show | Airtime Tea-Time Show |        |
| 2011-03-30                                 | 15:32:40.66 | 15:35:46.00 | 00:03:05.33 | BrakeOut                              | Ofir Gal         | PANIC                | Airtime Show | Airtime Tea-Time Show |        |
| 2011-03-30                                 | 15:35:46.00 | 15:38:53.53 | 00:03:07.53 | catching the sun                      | ZamajSika        | demo                 | Airtime Show | Airtime Tea-Time Show |        |
| 2011-03-30                                 | 15:38:53.53 | 15:44:12.30 | 00:05:18.77 | Moonlight Sonata                      | Bautista, Daniel | Beethoven            | Airtime Show | Airtime Tea-Time Show |        |
| 2011-03-30                                 | 15:44:12.30 | 15:48:36.67 | 00:04:24.36 | Hydrate - Kenny Beltrey               | Kenny Beltrey    | Favorite Things      | Airtime Show | Airtime Tea-Time Show |        |
| 2011-03-30                                 | 15:48:36.67 | 15:51:57.64 | 00:03:20.97 | Con Nombre De Tango                   | Bautista, Daniel | Weirdos And Classics | Airtime Show | Airtime Tea-Time Show |        |
| Underbooked show: 12:00:00 - 12:20:00      |             |             |             |                                       |                  |                      |              |                       |        |
| Gap until show end: 1200 seconds           |             |             |             |                                       |                  |                      |              |                       |        |

Airtime has been intended to provide a solution for a wide range of broadcast projects, from community to public and commercial stations. The scalability of Airtime allows implementation in a number of scenarios, ranging from an unmanned broadcast unit accessed remotely through the Internet, to a local network of machines accessing a central Airtime storage system. Airtime supports the playout of files in both the commonly used MP3 format and the open, royalty-free equivalent [Ogg Vorbis](#).

<http://new.flossmanuals.net/airtime/>



| <div> <div> <div></div> <div>Airtime - The open radio software for scheduling and remote station management.</div> <div></div> </div> <div></div> </div>   |      |     |  |  |
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| <div> <div></div> <div> <div>Airtime Support</div> <div>Technical support forum for Airtime issues. Posts here will also appear on the mailing list <a href="mailto:airtime-support@lists.sourceforge.org">airtime-support@lists.sourceforge.org</a></div> </div> </div>     | 1753 | 569 | <div> <div>Fri, 06 May 2011</div> <div>By: <a href="#">Paul Baranowski</a></div> </div>  |  |
| <div>Moderator: <a href="#">Adam Thomas</a></div>  |      |     |  |  |
| <div> <div></div> <div> <div>Airtime Development</div> <div>Airtime feature requests and developer discussions. Posts here will also appear on the mailing list <a href="mailto:airtime-dev@lists.sourceforge.org">airtime-dev@lists.sourceforge.org</a></div> </div> </div> | 2398 | 842 | <div> <div>Tue, 03 May 2011</div> <div>By: <a href="#">Adam Thomas</a></div> </div>      |  |
| <div>Moderator: <a href="#">Adam Thomas</a></div>  |      |     |  |  |
| <div> <div></div> <div> <div>Airtime Français</div> <div>Échanger avec d'autres Airtime utilisateurs en Français.</div> </div> </div>  | 12   | 3   | <div> <div>Tue, 26 April 2011</div> <div>By: <a href="#">Francois</a></div> </div>       |  |
| <div> <div></div> <div> <div>Airtime Documentation</div> <div>This forum is dedicated to improving the manual and documentation for Airtime. Please post ideas and requests here.</div> </div> </div>  | 1    | 1   | <div> <div>Fri, 11 February 2011</div> <div>By: <a href="#">Micz Flor</a></div> </div>   |  |
| <div> <div></div> <div> <div>Airtime Projects</div> <div>Highlight or discuss projects currently using Airtime.</div> </div> </div>  | 2    | 3   | <div> <div>Mon, 07 March 2011</div> <div>By: <a href="#">Adam Thomas</a></div> </div>    |  |
| <div>Moderator: <a href="#">Adam Thomas</a></div>  |      |     |  |  |
| <div> <div></div> <div> <div>Airtime Security</div> <div>Important security announcements and patches for Airtime.</div> </div> </div>   | 1    | 1   | <div> <div>Mon, 28 February 2011</div> <div>By: <a href="#">Adam Thomas</a></div> </div> |  |

<http://forum.sourceforge.org/>

[Home](#) / [Airtime](#) / [Download](#)

# Airtime

The open radio software for scheduling and remote station management.



## Download & Install

Airtime is for **Linux** platforms, but once installed can be controlled from anywhere using a modern browser. We recommend installing on Ubuntu 10.04 LTS or higher, on a computer with at least a 1 GHz processor and 512 MB of RAM.

## Features

.....

## Latest release

.....

## Download & Install

.....

## Support

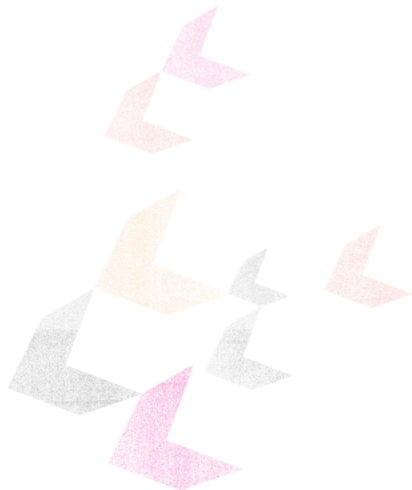
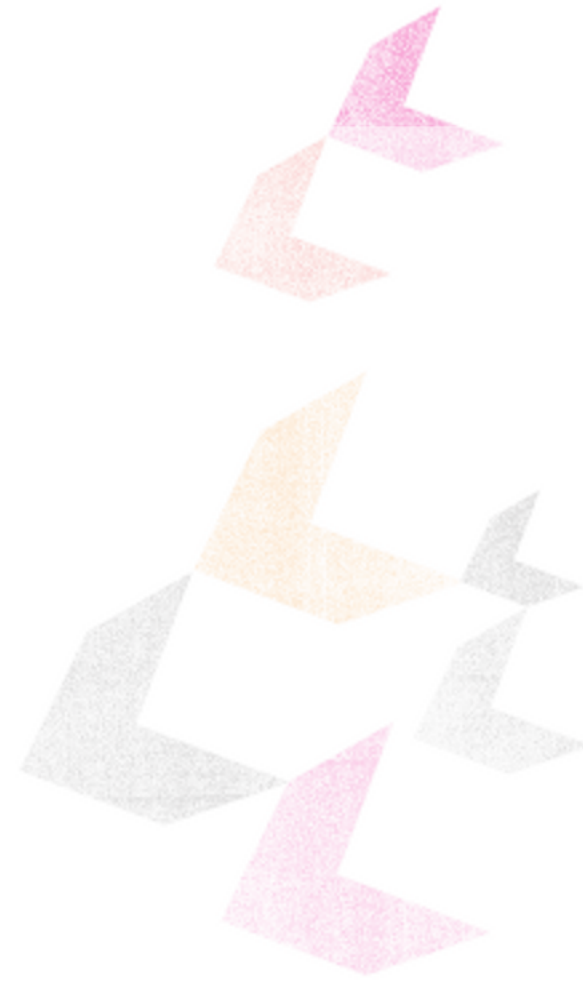
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<http://airtime.sourcefabric.org>



# Summary

- Airtime is a web app for radio stations that:
  - automates audio playout
  - allows DJ collaboration
- Lots of resources available to help you out
- Evolving quickly
- Paid support options available





**Contact:**  
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