

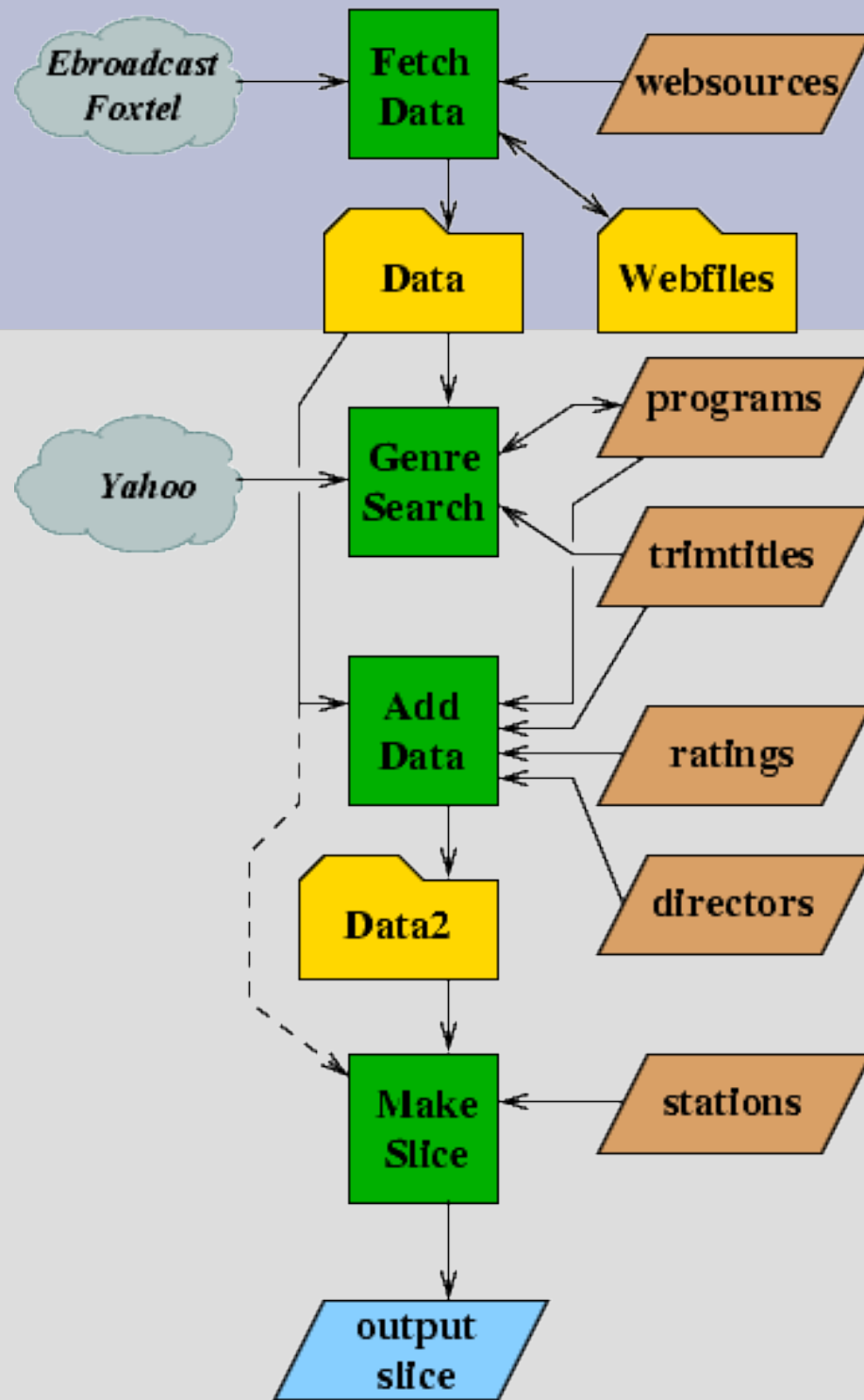
# The Australian Community-Driven TV Guide

**Warren Toomey**  
***[www.oztivo.net](http://www.oztivo.net)***

The Guide provides Series 1 TiVos and other PVR devices with TV guide data for both FTA and Pay TV stations. The content is created and maintained by the community.

# A Brief History

- Initially created to provide guide data for the US Series 1 TiVos being imported in 2001 onwards
- First two versions: simple Perl scripts, text file data stores, designed to provide guide data for a single “OzTiVo” box.
- Third version: more sophisticated, intelligence added to deal with inconsistent input data



# Data Inconsistencies

- Data was originally scraped from several web sites. Data issues included:
- Misspellings of show titles
- No length or end times: these have to be deduced by the next start time
- Shows broken across midnight or 6am, i.e. when one day's web data ends
- No “genre” information about shows. Little or no indication of episodic or one-off etc.

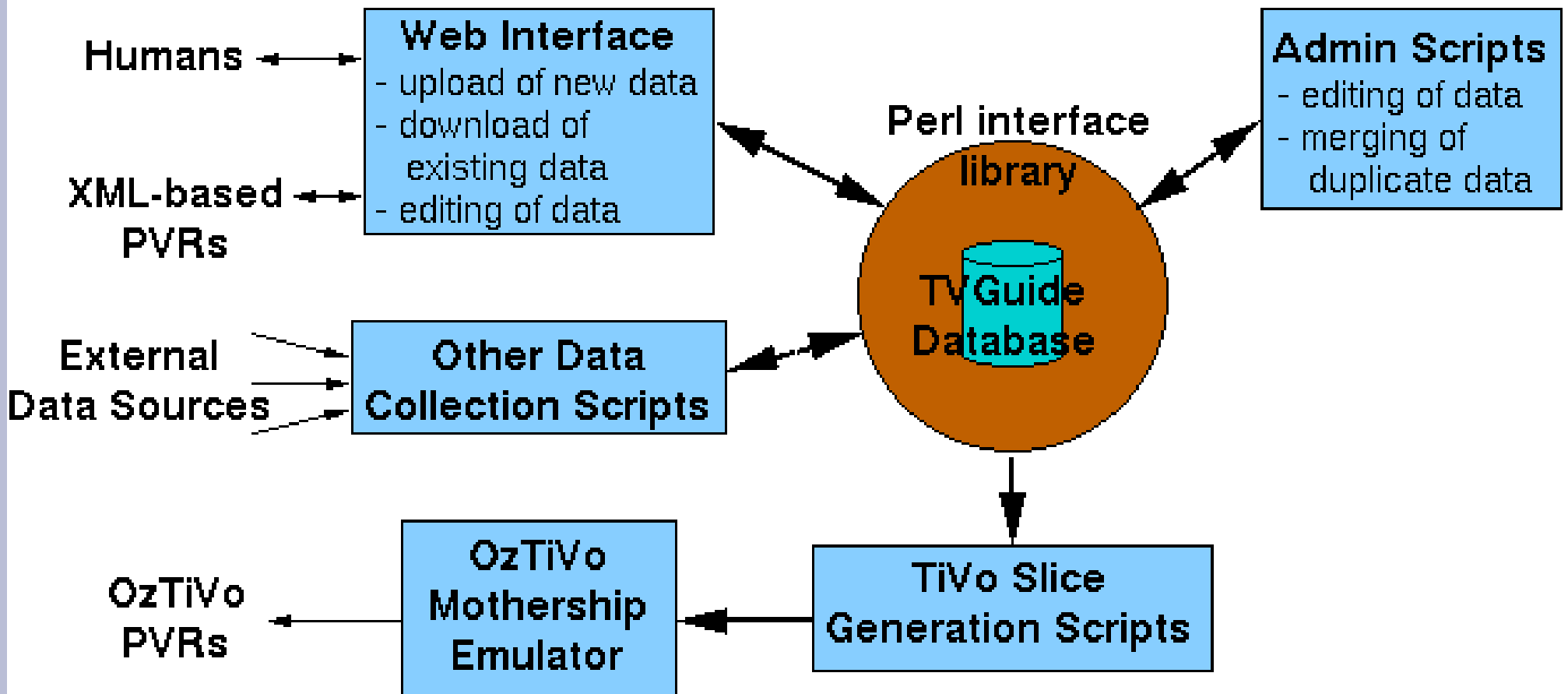
## V3: Rise and Fall

- By 2003/2004, enough OzTiVos that there was demand that a central site scrape, massage data & roll guide “slices”
- Scaling up showed large weaknesses, especially in the use of text files for data storage, but also in other areas
- Once we were rolling out guide slices, HWW asked us to cease scraping from the web sites they supply data to, i.e. most of the main Australian TV websites

# V4: Modular + Database

- 4<sup>th</sup> version rewritten from scratch in 2005/2006. Much more modular, with a database & many tables.
- Various phases now separated.
- Web frontend introduced to visualise guide data
- Data upload format defined, so users can add data which has not been scraped
- Better code for time issues, to deal with multiple programs with the same title

# Internal Structure



# Main Phases of Operation

- Ongoing: upload of new data by users, editing of existing data via web interface
- Daily: fill in data gaps via web fetches
- Fill gaps, add directors and star ratings
- Creation of data for each lineup, in both OzTiVo slice format and in XMLTV format
- Convert slices into binary format, compress and move slices and XML data into web area to be downloaded



# What's a Station?

# What's a Lineup?

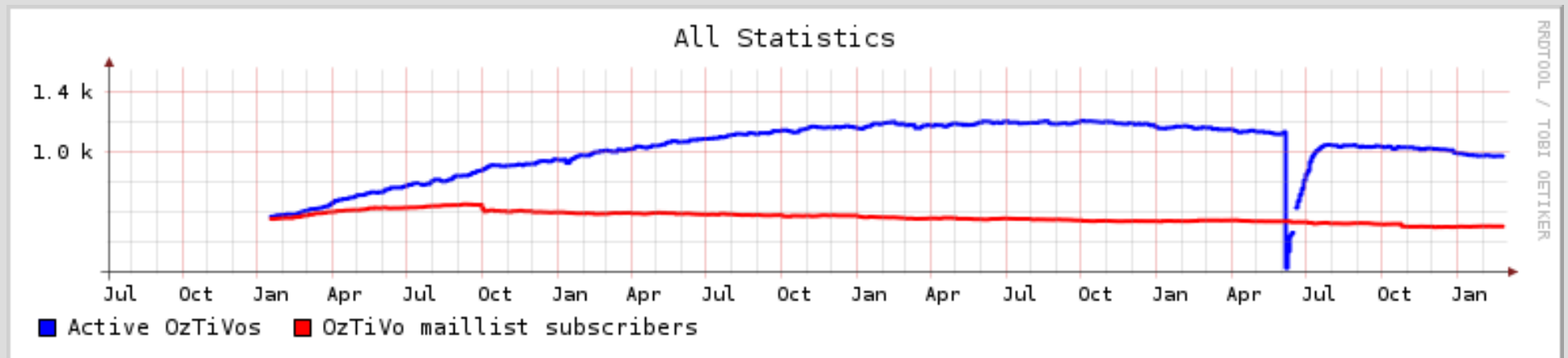
- A *station* is a source of TV content transmitting in a specific timezone
- A *channel* is where the TV content is received, possibly in another timezone
- A *lineup* is a set of channels which can be received by FTA or Pay TV in a specific region
- At present, we have 280 stations and 110 lineups

# V5: More Tables, Web 2.0

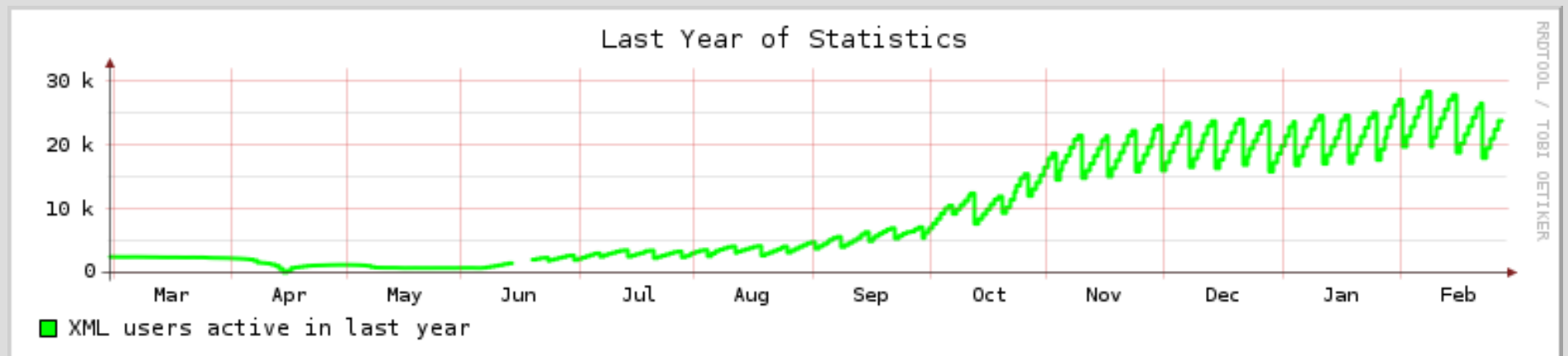
- Maintenance & development transitioned to Kevin Lentin + a few others in 2007: thanks Kevin!!!
- Javascript, some AJAX, more data heuristics, more database tables to drive the heuristics
- In 2008, we started to provide data in XML format to XMLTV and similar. They are now the bulk of the end-users.
- But, only a handful of people actually upload and guide data :-)

# Recent Statistics

## Graph of OzTiVo numbers since Jan 2006



## Graph of XML users in the last 12 month



# Lessons Learned

- MVC: separate UI from code, separate data stores from code, separate specific logic from data semantics
- Don't hardwire logic either, write “table-driven” logic: allows non-programmers ability to alter program behaviour
- Don't use local time, use UT and map to timezones where appropriate
- Web data is **ALWAYS** dirty, and the level & type of dirt varies with time!

**Questions?**