



Kodi v18 features and improvements

Martijn Kaijser



v17

codename “Krypton”

A solid release with several bugfix releases which only contained minor fixes.

Considered End of Life by us after v17.6

The background of the image is a dark, futuristic scene. In the center, there is a large, circular, metallic structure resembling a porthole or a window. This structure is divided into several segments, some of which are illuminated with a bright blue light. The segments are arranged in a circular pattern, with some being larger than others. The overall color scheme is dark blue and black, with the bright blue light providing a strong contrast. The text "KODI" is centered in the lower half of the image, rendered in a clean, white, sans-serif font. Below the main text, the version information "v18.0 - Leia - Alpha" is displayed in a smaller, lighter blue font. The entire image has a high-tech, cinematic feel, typical of a software splash screen or a promotional graphic for a media player.

KODI®

v18.0 - Leia - Alpha



v18

codename “Leia”

Our current work-in-progress version
started around november 2016



v18

Goals

Focus on architecture and improve implementation
what we already have

The long wanted cleanup release we always talked
about..
at least that how it now looks like



Coding goals

Improving existing code quality (quite some legacy code left from early days)

Upgrade code to current C++11 standard

Remove duplicated code

Remove obsolete libraries

Move to a single well maintained library (FFmpeg)

Dropping unmaintained code/feature parts

Try upstreaming the patches we carry as much as possible



Coding goals

Move non core functions towards binary add-ons

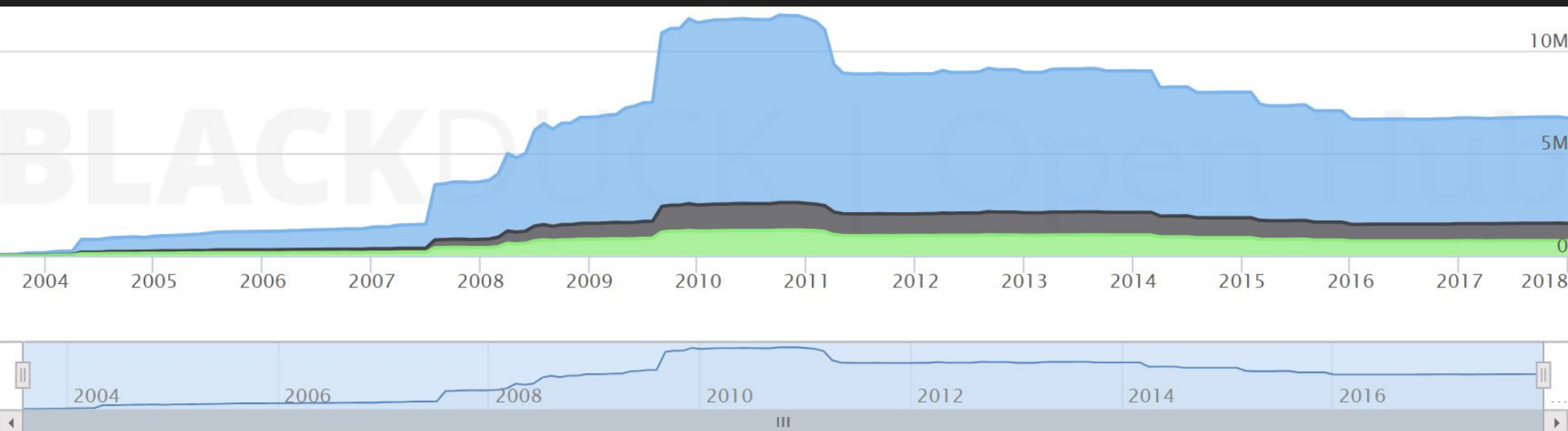
- Audio encoders / decoders
- Visualisations / screensavers
- PVR/DVR
- Archive support
- Peripherals
- Input streams (DRM, DASH)
- Picture decoding
- Distributed file systems (currently WIP)

Someday we will be able to update them between releases

Don't maintain code you don't need in the end



less code is better is seems





Some stats

v18 alpha

- 1,768 Pull Requests
- 5,686 commits
- > 32 contributors
- 7,523 changed files
- 387,205 additions
- 299,476 deletions

User base

- No idea as we don't track users



When will it be ready?

We never give dates nor promises



Planned changes

We never promise anything
although we will try to get some things done

Here's what is done though....



Return of the XBOX

Realizing a dream of becoming once again available
on the device that started it all

and we succeeded....



XBOX One

Started out with moving towards Kodi 64bit Windows version

June 2016 the work started on using Windows Centennial Bridge for getting to Windows Store

December 2016 the initial work started towards a full UWP version of Kodi

July 2017 the first runtime test could be done on a very bare version

December 2017 the official announcement was made and made available through XBOX and Windows Store



VideoPlayer

Continues work on further improving our core
VideoPlayer



VideoPlayer - The past

A lot of legacy code was still around dating back to XBOX days

Code grew over time when adding new platforms with no real grand design in mind

Not written platform agnostic

Not as efficient as it should be

Huge entanglement of code across the codebase

Current state was holding back features



VideoPlayer - The benefits

Maintainable code

Can't stress enough about maintainable code

Platform agnostic and platform specific are split

More efficient way of doing playback

Adding new features should be less of a hassle



VideoPlayer - Possible features

DONE:

Large part of the cleanup

Speed-up or slow down playback speed

Futureproof towards higher bitrate and resolution videos

Additional shaders and renderers

Playing DRM protected streams using InputStream framework

FUTURE:

Act as transcoder towards other players

Next up is splitting playback and user interface into their own process

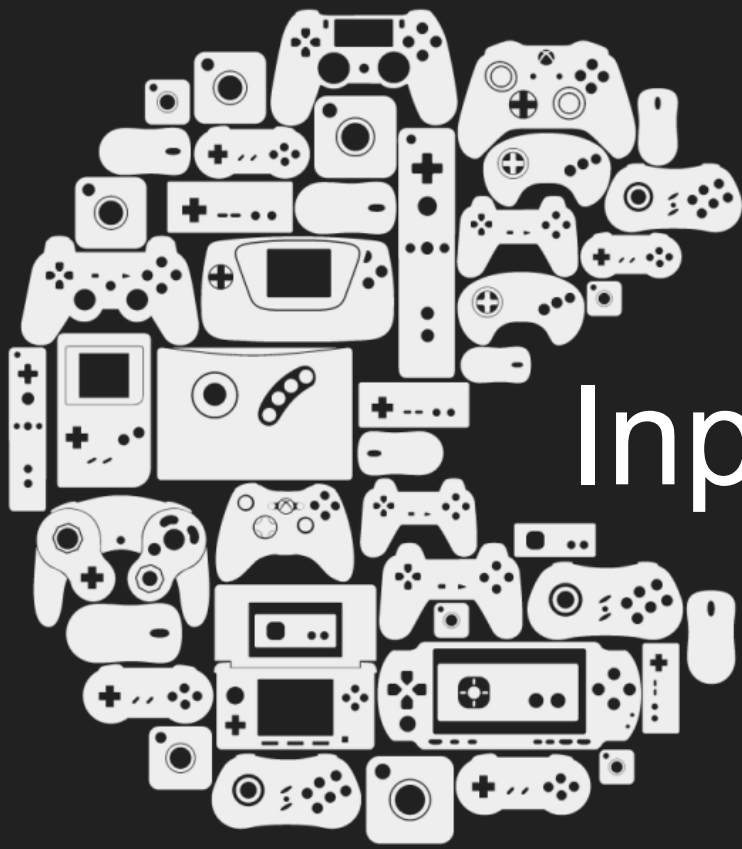
Headless mode which makes Kodi a possible server component

Picture-In-Picture



Screenshots....

No idea what I would show here as you might as well
just try yourself



Input handling

Complete rework of how input is handled
and split it off into controller add-ons



RetroPlayer

Allows you to play console ROM's the easy way
without the hassle of installing and configuring
emulators



Retroplayer

Playing old games is so much fun (with friends)

Easy controller setup without caring for brand

Auto handling of emulators

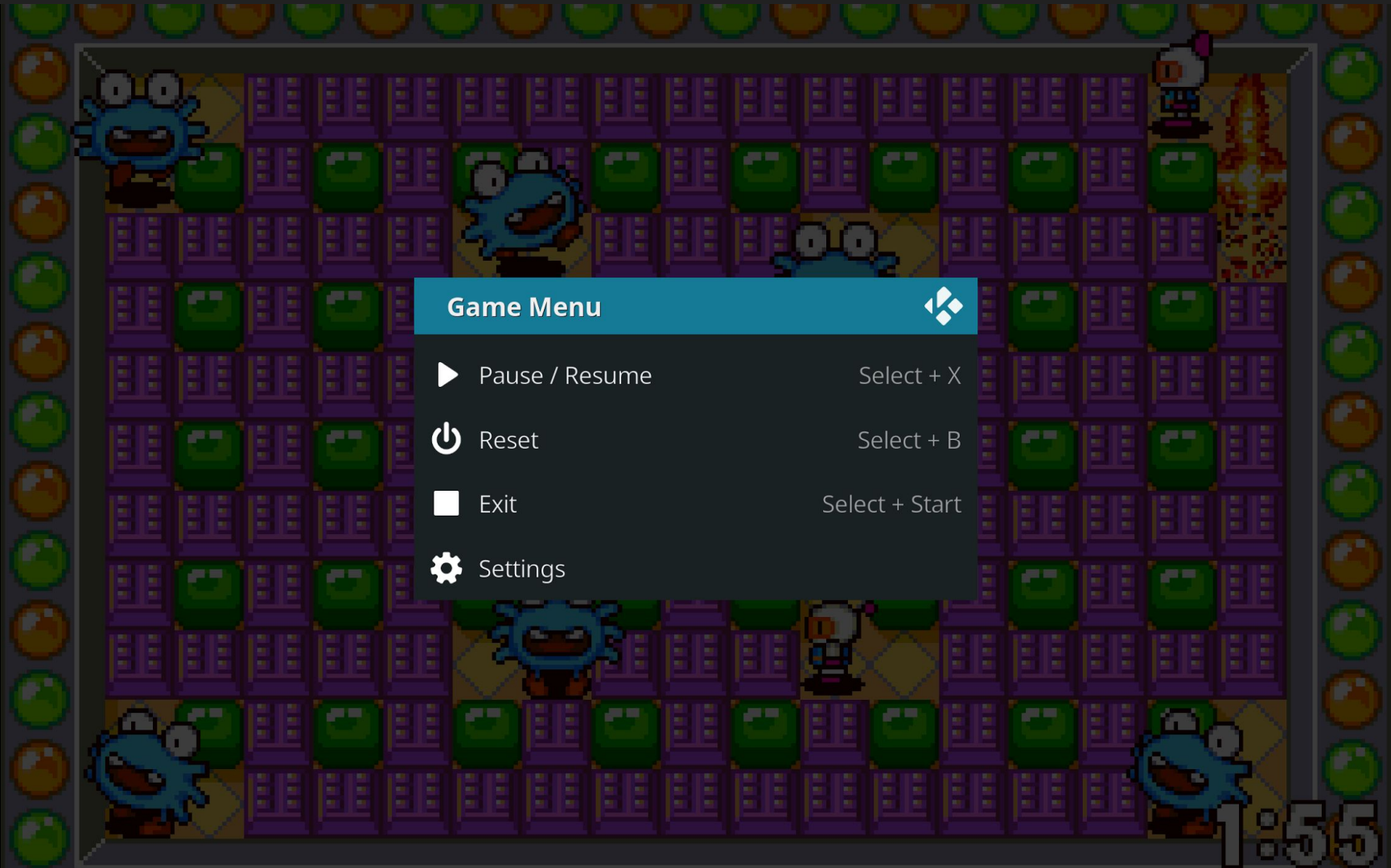
Never have to leave Kodi for playing games

A single library for all retro games (future work)

Save, pause, rewind and play again

We upstream as much code as possible to not need to carry patches

Retroplayer



Retroplayer





Input handling - Controller setup

Controller Configuration



Controller profiles

3DO

3DO Gamegun

Atari 2600

Atari 5200

Atari 7800

Atari Lynx

Atari XG-1 Lightgun

ColecoVision

Computer mouse



Buttons

Face buttons

Fire

Joystick

Console switches

Select

Reset

Color

Black/White

Left Difficulty A

Left Difficulty B

OK

Reset

Get more...

Help

Ignore input

1:55



Input handling - Controller setup

Controller Config

Controller profiles

3DO

3DO Gamegun

Atari 2600

Atari 5200

Atari 7800

Atari Lynx

Atari XG-1 Lightgun

ColecoVision

Computer mouse

Controller profiles

Sega Saturn 6 Player Adaptor

Sega Saturn Controller

Sega Shuttle Mouse

Sega Twin Stick

Sega Virtua Gun

Cancel

OK

Reset

Get more...

Help

Ignore input

9 items - 2/2

1:55



v18 Leia - what else was done

Android platform only uses standard Android API functions

Windows now also as 64bit version

Wayland support added (again)

Direct Rendering Manager (generic DRM/KMS implementation using GBM)

Almost entirely using CMake buildsystem



v18 Leia - what else was done

DASH support

DRM (Digital Rights Management) using Widevine

PVR improvements

Music library organisation improved

Improved Bluray support

Video library can scan embedded tags

An massive amount more but too much to mention.....



v19
codename “M*****”

Yeah we already work on the version after current
unreleased version

v19 M***** - Python 3



- Python 2 is End Of Life in 2020
- Python 3 is mature enough and more and more Python libraries either convert their codebase to Python 3-compatible or drop Python 2 support completely (Django is the most notable example).
- Most current Python books, tutorials and courses are focused on Python 3
- Python 2 is not actively developed. It receives only security patches while
- Python 3 gets all the cool new features with every minor version

Planning:

- Only Python 2 & 3 compatible add-ons will be accepted in v18
- Only Python 3 compatible add-ons will be accepted in v19
- Kodi v18 builds with Python3 are available for testing purpose
- Showing 57 changed files with 663 additions and 659 deletions.



It's not just Kodi

We do need to maintain a much bigger whole



What else to maintain

- Forum
- Website
- Wiki
- Distributed mirror server system
 - > 25TB/Day traffic
 - Average 3k req/s
- An array of python and binary add-ons
- iOS and Android remote controls
- Needed libraries
- Code upstreaming
- Company contacts
- Your own personal life
-





Thank you for listening

All information and development can be found on

<https://github.com/xbmc/xbmc>

<https://kodi.tv/>

<https://forum.kodi.tv/>

<http://kodi.wiki/>