



Panframe for iOS (version 1.9.6)

Description

Panframe is a Mindlight iOS component library offering full-spherical 360 degree movie playback and display technology. Panoramic playback can easily be integrated into existing applications.

Panframe supports VR playback of 3D/360 degree playback of stored streaming assets.

Panframe supports both motion-based as well as touch-based navigation. This includes the optional use of gyroscope, compass, accelerometer and fingers where appropriate.

Preliminary support for hotspot content is also included.

Panframe is offered as a universal library supporting armv7, armv7s and arm64 implementations.

Panframe comes with reference documentation and a simple to understand example.

More examples are available on request upon licensing.

Specifications/Features

Functionality

Display modes	Spherical panorama (3D) Rectangular flat view with aspect ratio (2D) Spherical panorama (3D) in side-by-side VR non-stereoscopic mode Spherical panorama (3D) in side-by-side VR stereoscopic mode (top-down formatted content)
Display 3D navigation presets	Touch Motion (Gyroscope ¹ and Accelerometer+Compass ²)
Control Field of View in 3D	Yes
Control view-angle in 3D	Yes, horizontal angle in motion-based preset, all angles in touch-based preset
Media playback control	Play, Pause, Stop and Seek
Media information	Playback time and duration (if available)
Blindspot support in 3D	None, Top and Bottom locations
Hotspot support	Yes, in spherical panorama display mode only (currently)
User Interface customization	Fully customizable
Downloading of hosted assets (optional)	Yes, on request

Asset formats and definition

Supported video codecs³	H.264 Baseline Profile 3.0 on iPhone 3GS and iPod Touch 3 rd generation H.264 Main Profile 3.1 on iPhone 4 and iPod Touch 4 th generation H.264 Main Profile 4.1 on iPad 2, iPhone 4S or better
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¹ iPhone 4 and better, iPad 2 and better only

² Available in available legacy implementation

³ Codecs supported on older devices are also supported on newer devices

Maximum video resolution⁴	4096x2048 (iOS version and device dependent) Higher than UHD resolutions upon request and cooperation basis.
Maximum video frame-rate⁵	48 fps
Supported audio codecs	AAC-LC up to 160 Kbps and 48 Khz
Supported audio/video container formats	MP4 MOV M4V HLS / M3U8 (fixed format live & vod streaming, requires iOS 6.0 and higher)
Supported image formats (optional)	JPEG PNG
Maximum panoramic image resolution (optional)	4096x2048

OS and integration

Supported iOS versions	5.0 and higher (some functionality is only available in certain version and levels)
Supported iOS devices	iPod touch 3 rd up till 5 th generation iPhone 3GS iPhone 4 + 4S iPhone 5 + 5S iPhone 6 and 6 plus iPad iPad 2 iPad mini + retina versions (2 and 3) iPad 3 rd & 4 th generation iPad Air, iPad Air 2
Binary support	armv7 armv7s arm64
Required iOS frameworks	AVFoundation.framework CoreLocation.framework CoreGraphics.framework CoreMotion.framework CoreMedia.framework CoreVideo.framework Foundation.framework MobileCoreServices.framework OpenGLES.framework QuartzCore.framework Security.framework SystemConfiguration.framework UIKit.framework
Panframe Framework library size	~970 KB
Typical compiled Panframe runtime size	~250 KB
Typical⁶ runtime memory footprint during view & playback	~11 MB
Typical CPU usage during operation for reference	~28% CPU usage on an iPad mini ~20% CPU usage on an iPad 4

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⁴ Format, device and/or application dependent

⁵ Device and/or application dependent

⁶ Using one view and one video asset when using one Full-HD asset (1920x1080) at 25 fps on an iPad mini running iOS 6.1.3