



UI development solutions

Product catalog



● UI development middleware —Effortless versatility—

For	Product names
Android platforms	▶▶ MascotCapsule Style3D
Other than Android	▶▶ 3DView package

● UI development environment —UI authoring development tools—

Development tools	Product names
Dedicated authoring tool for UI development	▶▶ MascotCapsule UI Framework
Authoring tool for 2D vector graphics	▶▶ HIVE

For Android platforms
MascotCapsule Style3D

Style3D is a library to simply develop a wide range of 3D expressions in the UI. Flexible 3D UI solutions are available for various Android development issues: slow rendering, complicated programming, etc.

- Features**
- Smooth adoption of diverse 3D effects
 - High speed rendering
 - No need for a special knowledge of 3D graphics

Style3D classes and methods have a close affinity with the Android standard framework. It is easy to add 3D graphics to applications without changing the Android architecture.

Style3D controls OpenGL ES. 3D graphics development expertise is not necessary.

Standard address book

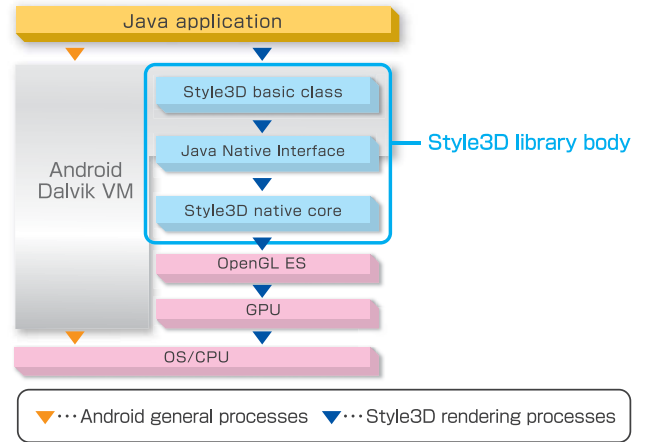


Using Style3D



Rich UI with 3D effects

System architecture



For platforms other than Android
3DView package

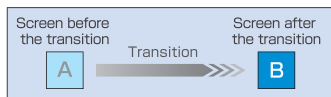
3DView package is a library to simply develop varieties of high-quality 3D effects in the UI. It creates the expressive UI with a rich screen transition of photo slide shows, menu screens, etc.

- Features**
- Designers can efficiently develop sophisticated 3D representations without a complicated coding by programmers
 - Effortlessly renders 3D graphics at a high-speed on any platforms and devices

Versatile 3D effects

Variations of transitions are available through 3D effects.

Screen transition processes and patterns
Diverse patterns are created by combinations of effects and screens before/after the transition.



Transition pattern 1
Animates the image A, and after the playback, immediately switches to the image B.



Transition pattern 2
Quickly hides the image A, and animates the image B for playback.



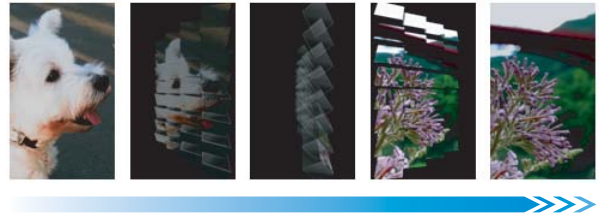
Transition pattern 3
Animates the image A, and after the playback, animates the image B for playback.



Transition pattern 4
Animates the image A and B for playback (A and B are simultaneously used in a single animation).



Sample 1



Sample 2



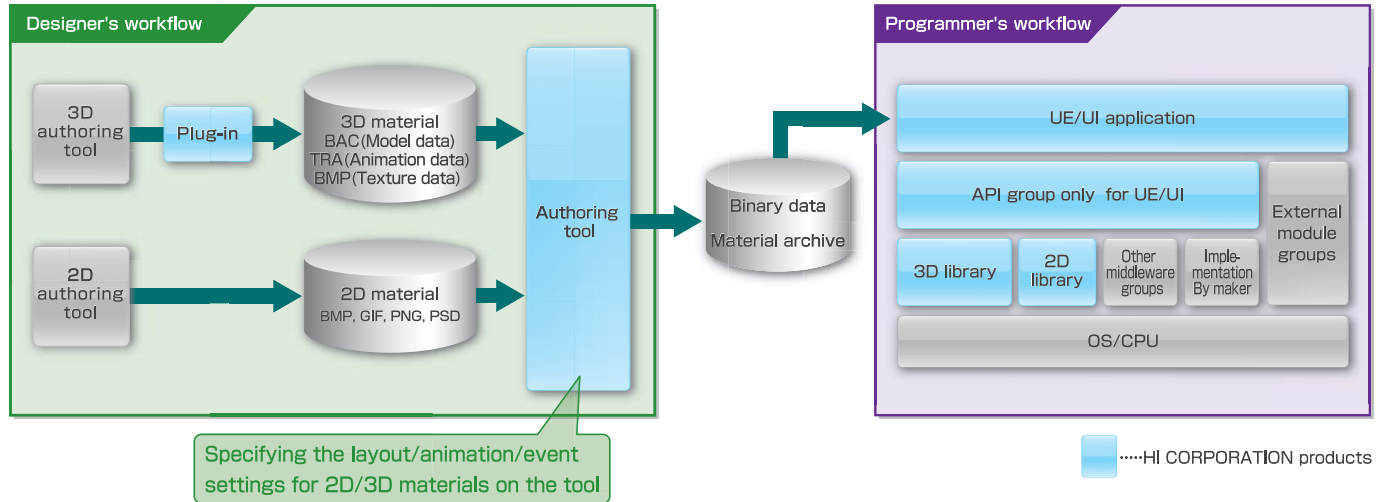
Dedicated authoring tool for UI development
MascotCapsule UI Framework

UI Framework is a UI development solution comprised of the authoring tool for setting/verifying the UI layout and animation, and the middleware for rendering the application generated by the authoring tool.

- Features**
- Designers and programmers can work independently without any interference
 - From high-end to low-end, various devices and environments are supported

Workflow

Designers can use the tool to specify layout, animation, and event settings for 2D/3D materials.
 Programmers can simply implement the data created by designers on the device to develop a rich UI.



Authoring tool for 2D vector graphics
HIVE

Using similar development procedures as 2D vector graphics, 2D vector graphics and 3D graphics can be combined in the UI. This solution takes advantage of 3D graphics to create a highly expressive UI that breaks through the limitation of 2D graphics.

- Features**
- Plays back the SWF file embedded with 3D animations created for HIVE
 - Supports ActionScript for specifying the detailed UI setting
 - Works with the GPU that supports OpenGL ES, enabling the high-speed rendering of 2D/3D graphics

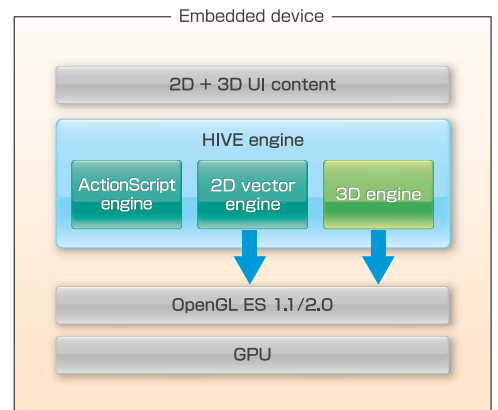
3D rendering of 2D image



3D effects examples



System architecture



Functional specifications

■ Style3D/3DView package

		Style3D	3DView package
Operating environment	CPU	ARM9 equivalent or above 32-bit CPU CPU speed 400 MHz or above is recommended	ARM7 equivalent or above 32-bit CPU ARM9 running at 150 MHz or above is recommended for "rich" representations at QVGA or better output resolutions
	Code size	Approx. 620 KB	Approx. 350 KB (including MascotCapsule V3) Note: Actual code sizes vary depending on the compilation environment.
	Engine work area	Varies depending on the content and output resolutions Note: 2 MB or more is recommended for the content.	Varies depending on the content and output resolutions Note: 1 MB or more is recommended for the content. In addition to this, the buffer area is required according to the output resolution.
	3D hardware accelerator	OpenGL ES 1.1 compliant 3D hardware accelerators that run on the Android platform	OpenGL ES 1.1 compliant 3D hardware accelerators. Also capable of running on the platform that does not support 3D hardware accelerators
OS/Platforms	ITRON		●
	Linux		●
	Symbian OS		●
	Windows		●
	Windows CE		●
	Windows Mobile		●
	Android(2.1 or later)	●	
3D authoring tools	3ds Max, Maya, LightWave 3D, Softimage, etc.	3ds Max, Maya, LightWave 3D, Softimage, etc.	

■ UI Framework/HIVE

		UI Framework	HIVE
Operating environment	CPU	ARM7 equivalent or above 32-bit CPU ARM9 running at 150 MHz or above is recommended for "rich" representations at QVGA or better output resolutions	ARM9 equivalent or above 32-bit CPU CPU speed 200 MHz or above is recommended
	Code size	2D: Approx. 50 KB; 3D: Approx. 200 KB Note: Actual code sizes vary depending on the compilation environment.	2D: Approx. 350 KB; 3D: Approx. 200 KB Note: Actual code sizes vary depending on the compilation environment.
	Engine work area	Varies depending on the UI design and output resolutions Note: 1 MB or more is recommended for the UI. In addition to this, the buffer area is required according to the output resolution.	Varies depending on the UI design and output resolutions Note: 2 MB or more is recommended for the UI.
	3D hardware accelerator	OpenGL ES 1.1/2.0 compliant 3D hardware accelerators. Also capable of running on the platform that does not support 3D hardware accelerators	OpenGL ES 1.1/2.0 compliant 3D hardware accelerators. Also capable of running on the platform that does not support 3D hardware accelerators
OS/Platforms	ITRON	●	
	Linux	●	●
	Symbian OS	●	
	Windows	●	●
	Windows CE	●	
	Windows Mobile	●	●
	Android(2.1 or later)	●	
Rendering engine functionalities	2D	Raster graphics [Main functionality] BMP: Supports 1-bit, 4-bit, and 8-bit indexed color; 24-bit and 32-bit color GIF: Supports 8-bit indexed color PNG: Supports 1-bit, 2-bit, 4-bit, and 8-bit indexed color; 24-bit and 32-bit color (Gray scale image is not supported) Scaling, rotation, alpha-blending (only supports PNG 32-bit color), semi-transparent color (indexed color supporting BMP, GIF, PNG, and PSD)	Vector graphics/Raster graphics
	3D	Texture: Up to 1024×1024 (256-color BMP) Environment mapping: Up to 64×64 (256-color BMP) Note: The following functionalities are the same as MascotCapsule V3. Parallel projection, perspective projection, perspective correction, two-sided polygon, Z-sort, directional light, ambient light, semi-transparent polygon, transparent polygon, environment mapping using multiple textures, texture animation by switching polygons, polygon color	Texture: Up to 1024×1024 (256-color BMP) Environment mapping: Up to 64×64 (256-color BMP) Note: The following functionalities are the same as MascotCapsule V3. Parallel projection, perspective projection, perspective correction, two-sided polygon, Z-sort, directional light, ambient light, semi-transparent polygon, transparent polygon, environment mapping using multiple textures, texture animation by switching polygons, polygon color
2D authoring tools	Authoring tools for 2D raster graphics (Photoshop, etc.)	Authoring tools for 2D raster graphics and 2D vector graphics	
3D authoring tools	3ds Max, Maya, LightWave 3D, Softimage, etc.	3ds Max, Maya, LightWave 3D, Softimage, etc.	
Script language	---	ActionScript	

Contact information

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