



Animator Guild

ANIMATION SOFTWARE COMPARISON GUIDE

Updated: March 2020

Software	Adobe Animate (Flash)	TVPaint	ToonBoom (Harmony)	Cacani	Clip Studio Paint EX
Price	\$35/month licence	500€ to buy Standard outright Half price (250) if you buy as a verified student €1250 for professional edition	\$15/month minimum licence (premium options available)	\$20 monthly \$180 annually or \$499 to buy outright	\$219
Free trial	30 days	Cannot save progress or export	30 days?	30 days?	30 days
Learning Curve	Easy	medium	Hard	Medium?	Medium
Intuitive UI	10/10	8/10	2/10	7/10	
Narrow vs broad capabilities	Broad (2d animation + flash game creation + web features, buttons, menu items)	Narrow – traditional looking 2d frame by frame.	Medium. Specializes in 2d animation but has good compositing features + vector bitmap combination.	Narrow. Specializes in 2d frame by frame animation	Medium – used for Animation and manga + vector and bitmap combination
Stability (crashes and errors)	2/10 (newest version is most stable)	6/10	7/10	Unknown	Unknown
Quality of Brush / line tool	2/10	9/10	9/10	4/10	9/10
Mobile	PC and Mac	PC and Mac	PC and Mac	PC and Mac	PC, Mac and Ipad
Popularity	It has been very popular with Web gen / indie animators. The animation industry has mostly moved on from	Steadily growing popularity, especially in Europe where it is industry standard but also in Anime and with animation graduates.	Considered industry standard in western animation studios especially.	Anime Studios like it.	Used increasingly in Anime to replace Retas Pro. The brushes are very good.

	it. It is going out of fashion.				
...Continued	Adobe Flash (Animate)	TVPaint	ToonBoom (Harmony)	Cacani	Clip Studio Paint EX
Vector / Bitmap	Vector	Bitmap	Vector +	Vector	Vector +
Biggest downsides:	Unstable + bad limited brushes. Lacks advanced animation tools. Limited audio features. The industry has moved on from this software. Cannot buy it outright. Subscription plan means that over time you will end up spending more.	It is not a vector software, so it lacks some of those features. It strives to be a stripped-down software to simulate old fashioned pencil on paper. Limited audio capabilities. Standard version lacks features like camera tools and blending modes. Relies on a USB dongle (which they send you) to run.	Unintuitive. Tedious to learn and get used to. Does not give you real-time preview (so while you are working the lines look pixelated, unless changed in settings. I found this very off-putting)	It has few stand-out features. The auto inbetweening still takes time and some fiddling to get right.	Primarily built for Manga – which causes it to have some distracting features and some timeline limitations but not a big deal.
Biggest upsides:	The most intuitive user interface. Simple powerful symbols and timeline features. Easy to pick up, easy to collaborate because of its accessibility.	All of the unique advantages that come with bitmap: Pressure sensitive opacity, nuanced control over custom brushes, blending colours. The best Bitmap animation software out there. Extremely useful repeatable actions feature. Ideal for former	Packed full of interesting advanced features. The most sophisticated vector / lip sync / rendering tools in any 2d animation software.	Contains features to accelerate the late animation process (inbetweening, colouring)	Great value for money. Great for comic book style but also an excellent all-round software for art and animation.

		traditional animators. This video explains well.			
Special feature	A simple and powerful library / symbols feature	Repeatable actions (Any tool action across multiple frames) and brushes	Node-based effects and compositing. + a 3D stage	Auto-inbetweening capabilities	Manga-style brushes and tools.
...Continued	Adobe Flash (Animate)	TVPaint	ToonBoom (Harmony)	Cacani	Clip Studio Paint EX
Official Website	Link	Link	Link	Link	Link
To read more about features	Link	Link	Link	Link	Link
Free trial	Yes	Yes	Yes	Yes	Yes
Sales page	Link	Link	Link	Link	Link
Learning resources	Jesse J Jones	Link	Link	Link	Link

Adobe Photoshop

Photoshop is a fantastic Software. One of the most powerful creative softwares out there. While you can animate using Photoshop (and people do!) it is not an animation software as its primary function, so I believe it does not belong in the table. However, you might want to consider using Photoshop as your animation software if:

- You are already experienced with making artwork in Photoshop
- You already own Photoshop
- You are a big fan of painterly bitmap animations and you want to use Photoshop's amazing array of custom brushes.
- You are happy with using work-arounds, at times limited animation features and non-animation-friendly interface.
- You want to include something specific in your animation work-flow that photoshop is very good at (photo-manipulation, custom brushes, filters)
- You want to make small gifs and tests every now and then, but your main focus is still images.

I use Photoshop for painting my backgrounds, but that topic is for another time when we aren't just covering the basics. Adobe Photoshop and Adobe After Effects would really well together as a combination!

[Clip Studio Paint](#) – Similar to Photoshop, it is primarily designed for manga, but they have adapted Clip Studio Paint EX to be a fully functioning animation software. And it is a very nice program! People DO successfully make animation on it. So if you really love CSP, you can use it to make animation. I don't personally use it, but it is a nice software to occupy that medium-price tier of \$219.

Retas Pro – I would not personally recommend getting this software. It has a very clunky user interface which is bothersome even to experienced users. I think most of the software mentioned in this are a better choice. It is popular in Japan but the anime industry because it offers a bridge from scanned traditional drawings (but so does Toonboom and Opentoonz).

Moho Pro 13 - [Link](#) - This is a decent program... It gets the job done and it has some interesting features, but it feels like it doesn't quite fit into the market of animation software. It doesn't really have any outstanding traits which make it the go-to program for a certain style. It is also not considered to be an industry standard software and is seen as more for hobbyists, so knowledge of the program probably won't help you for future employment.

Free Software comparisons

There are some excellent free options for animators who find themselves on a budget

	OpenToonz	Krita	Blender 2.8 (Grease Pencil)	Flipaclip
Really free?	Yes!	Yes!	Yes!	In-app purchases
Mobile Supported	No	No	no	Yes
Advantages	It is continuously being developed and improved. Decent support network which is growing. Perhaps the most sophisticated free 2D animation software with more features than the other contenders on this table.	Bitmap! Nice brushes with a natural feel. Runs fast on most computers.	3d – 2d integration. Node based compositing, motion tracking. An extremely versatile software with a bright future.	Mobile supported, simple and easy to use. Portable.
Disadvantages	Unintuitive, ugly, clunky user interface. Some people report it to be buggy and unstable.	Some limited features at this current version. Limited rendering formats (you need to download ffmpeg to export as video). Can be slow to update versions and patch bugs.	I do not recommend this software for beginner animators. It is not tried and tested for 2d animation. Smaller support network, a hard learning curve and treacherous UI. The 3d-2d integration (which entices a lot of people) is an advanced skill which is not something	Annoying watermark, very limited features and tools. Only designed for small animation clips, not whole films. Only use this software if you have no other alternatives here. You can use it to learn the basics but past that you will run into its limitations.

			you should jump to as a beginner before learning 2d animation thoroughly. 3d-2d integration often looks bad without experience to pull it off well. I do not recommend this software for learning animation.	
Quality of brush / line tool	2/10	7/10	2/10	1/10
Recommendations	Use this if you can't afford ToonBoom	Use this if you can't afford TVPaint	If you are confident and want to later mix 3d with 2d.	I would say it is the simplest and most limited out of this list. Use this if you only have a mobile or tablet, not a computer.
Download link	Link	Link	Link	Link
Learning Resources	NobleFrugal Studio DarrenT	Kdsketch Sarah Tepes Ed Tadeo	Blender Developers	Link

The following programmes I do not recommend for learning animation because the animation capabilities are too severely limited – usually either with limited layers, timeline length or other essential functions. If you use these as your primary animation software it will limit your growth as an animator and what you can make:

- Autodesk Sketchbook
- Adobe Fresco
- Adobe Photoshop Sketch
- Clip studio paint Pro (not EX)

Accompanying software

In the beginning, you will probably want to do everything within your animation software, just to keep things simple. But if you start making fully rendered films independently, after a while you may find that you want some accompanying software, especially when it comes to compositing and sound design. Maybe just keep it in the back of your mind for now while you are starting out. When you reach a stage where you have made some animations in your animation software, it might be time to branch out to include some other software in [your pipeline](#).

Adobe After effects

A compositing software with some extremely powerful tools. This software is typically used to handle tasks surrounding frame-by-frame animation, not the frame by frame animation itself. If it is used for pure animation it would be for rigged 2d puppet animation. Among other features it has:

- A 3d stage
- A huge library of post-production effects and third-party plugin options
- A sophisticated motion graph editor (for tweening)
- Advanced colour correction tools
- Exporting and encoding options

Adobe Audition

This is probably the best software for handling your audio. Mixing and mastering, balancing the levels. You can get by with dragging and dropping audio into your animation software to begin with. But once you become more advanced, you will want greater control over balancing the audio.

Adobe Premiere

When you start to make animations over a minute in length, it can be hard for your software to hold all of that information in one file! Adobe Premiere is an editing software which will allow you to assemble multiple exported videos, stitch the scenes together, add sound and export ready to upload to the internet.

Procreate

If you have an Ipad, Procreate is a beautifully intuitive software for drawing and painting, and is priced at an affordable \$9.99. I don't own an Ipad, but if I got one, this is the first app I would download. However, it is not designed for large animation projects, so for me it would only be used in pre-production.

Industry Software

Most of what I have listed has been with independent animation creators in mind and for people choosing their first animation software. I recommend the independent animation approach, but I know that some people want to make purchasing decisions mainly based on what the industry is currently using the most, so that they have better future job security. I am generalising a lot here - there is quite a bit of variation within the three major industries in the world - but these are the ones I would choose to buy if getting "industry standard" animation software was my highest priority:

Anime (Japanese animation) Industry

Primary: Clip Studio paint or Retas pro
Secondary: Adobe After Effects, Adobe photoshop

Western Animation Industry

Primary: Toonboom Harmony
Secondary: Adobe After Effects, Adobe photoshop

European animation industry

Primary: TVPaint
Secondary: Adobe After Effects, Adobe photoshop

ABOUT THE AUTHOR

Howard Wimshurst is an award-winning filmmaker and artist who specializes in 2D animation. From his experiences creating independent short films and his Bachelor of Arts degree in Animation, he works with a wide variety of partners from around the world to achieve their creative ambitions. Among these clients are the BBC, DJI, Vetpaw, Sam Kolder and Cancer Research UK.

[Portfolio website](#)

[Animation blog](#)

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