APPLICATIONS FOR DIGITAL SCULPTING. pdf

1: Mudbox | 3D Digital Painting And Sculpting Software | Autodesk

Much like sculpting with real clay, digital sculpting is a multi-layer process. Artists can start with a basic model completed in a 3D modeling application, or with a simple shape like a sphere. They start the process by using tools that manipulate the geometry of the sculpt.

Sculpting technology[edit] The geometry used in digital sculpting programs to represent the model can vary; each offers different benefits and limitations. The majority of digital sculpting tools on the market use mesh-based geometry, in which an object is represented by an interconnected surface mesh of polygons that can be pushed and pulled around. This is somewhat similar to the physical process of beating copper plates to sculpt a scene in relief. Other digital sculpting tools use voxel -based geometry, in which the volume of the object is the basic element. Material can be added and removed, much like sculpting in clay. Still other tools make use of more than one basic geometry representation. A benefit of mesh-based programs is that they support sculpting at multiple resolutions on a single model. Areas of the model that are finely detailed can have very small polygons while other areas can have larger polygons. In many mesh-based programs, the mesh can be edited at different levels of detail, and the changes at one level will propagate to higher and lower levels of model detail. A limitation of mesh-based sculpting is the fixed topology of the mesh; the specific arrangement of the polygons can limit the ways in which detail can be added or manipulated. A benefit of voxel-based sculpting is that voxels allow complete freedom over form. Voxels, however, are more limited in handling multiple levels of detail. Unlike mesh-based modeling, broad changes made to voxels at a low level of detail may completely destroy finer details. Uses[edit] Sculpting can often introduce details to meshes that would otherwise have been difficult or impossible to create using traditional 3D modeling techniques. This makes it preferable for achieving photorealistic and hyperrealistic results, though, many stylized results are achieved as well. Sculpting is primarily used in high poly organic modeling the creation of 3D models which consist mainly of curves or irregular surfaces, as opposed to hard surface modeling. In conjunction with other 3D modeling and texturing techniques and Displacement and Normal mapping , it can greatly enhance the appearance of game meshes often to the point of photorealism. Some sculpting programs like 3D-Coat , Zbrush , and Mudbox offer ways to integrate their workflows with traditional 3D modeling and rendering programs. Conversely, 3D modeling applications like 3ds Max , Maya and MODO are now incorporating sculpting capability as well, though these are usually less advanced than tools found in sculpting-specific applications. High poly sculpts are also extensively used in CG artwork for movies , industrial design , art , photorealistic illustrations , and for prototyping in 3D printing. This rendering of two alien creatures shows the amount of photorealism achievable through digital sculpting in conjunction with other modeling, texturing, and rendering techniques.

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2: www.enganchecubano.com - 3D Services

However it's widely regarded as the app that cemented digital sculpting as a viable modelling method, and remains the go-to solution for CG artists. But since its introduction, a number of similar tools and technologies have joined it, and budding digital sculptors now have a wide variety of options at various price levels.

While many 3D modeling programs focus on precision, 3D sculpting apps are all about turning a piece of visual clay into a stunning 3D print. In the first part of this blog post, we will focus on sculpting programs. Here, sculpting is the sole purpose of the software and not just a bonus feature. Later on, we will also mention traditional 3D modeling programs that offer basic sculpting modules. ZBrush Without any doubt, ZBrush is the most popular and most powerful digital sculpting program out there. Launched in as 2. ZBrush comes with a rather steep learning curve and a price of USD. You should also check out our tutorial about how to prepare your ZBrush models for 3D printing here. Mudbox digital painting and sculpting software provides 3D artists with an intuitive and tactile toolset for creating and modifying 3D geometry and textures. The main difference between both programs is that ZBrush is much better at generating a base geometry to start modeling with than Mudbox. With Mudbox, you need to use integrations with Maya or 3ds Max to generate a base geometry more easily. Overall, ZBrush and Mudbox feature similar sets of tools and brushes. However, ZBrush beats Mudbox in terms of functionality. ZBrush is often considered to be superior to Mudbox when it comes to painting the model. Since both ZBrush and Mudbox come as free trial versions, you might want to check them both out first and then choose the program you like most. This bust of a monster was created in Mudbox 3. You can mash, mix, sculpt, stamp or paint your own 3D designs from scratch, or start from over 10, models in the D Gallery. Our very own mascot the Piguin; see below , was created in this great program. Its main advantages are its super powerful texturing, UV mapping, and painting tools. The general 3D modeling part of working with this software is pretty unconventional and differs from the other programs listed here. This software comes at a price that ranges between 99 and USD depending on which license suits your needs. The 3D printing community of this software is rather small, and so finding good 3D printing tutorials for it is a little more difficult than for the other programs mentioned in this list. To try it, you can simply start with their free 30 days trial version. Sculptris Sculptris is a free digital sculpting tool, created by Pixologic, the company behind ZBrush. It shows you the very basics of what ZBrush is able to do. Sculptris provides an excellent gateway into the world of 3D sculpting. Its features are easy to learn, even for people with little or no experience in digital art, yet robust enough for creating detailed base models. Sculptris also lets you import 3D meshes. The only downside of Sculptris is its limited functionality. However, several traditional 3D modeling programs also offer sculpting features. So if you already have experience with one of the following programs, you might want to check out their sculpting modules first. Blender Blender is a very powerful 3D modeling program and a popular choice within the 3D printing community. It has been equipped with a sculpting tool set since , and its workflow is pretty similar to that of ZBrush and Mudbox. Additional bonuses are the sheer number of tutorials and plugins out there as well as the fact that Blender is completely free! However, users continuously complain about the interface and the very steep learning curve! Cinema 4D Cinema 4D received a sculpting module back in It features multi-resolution sculpting, advanced symmetry options and a big range of brushes, stencils and stamps. However, if you are not already an owner of this software, it comes with a price of roughly 3, USD 42 days free trial here. Maya Maya also extended its 3D sculpting capabilities and added a new set of brushes in While it does a decent job, many users complain that the workflow is still too buggy and sluggish. Autodesk Online 3D Sculpting App SculptGL Last but not least we have an honorable mention that certainly deserves a spot on this list: It runs directly in your browser and allows you to start sculpting your first model in seconds. You might want to check out our tutorial to get a better understanding of this free app. If your design is ready to be printed, upload it here and see the price of your HD 3D print instantly.

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3: Top 10 3D Sculpting Programs | 3D Printing Blog | www.enganchecubano.comalise

List of some widely used digital sculpting software packages for game designers, modelers and sculpting students. Sculpting is a creative process of moulding suitable materials into a sculpture. Traditional Sculptors prefer using clay to sculpt as it is really easy to add, subtract and shape it during sculpting process.

While digital sculpting would seem a difficult task to transfer to mobile, there are a number of excellent apps available, for both iOS and Android devices. Free Autodesk has two apps for digital sculpting: Usability and functionality The interface is easy to understand. The sculpting features are basic but all the essentials â€" sculpt in, sculpt out, pinch, smooth, grab and flatten â€" are covered, although I would have liked to have seen a bulge tool. There is a simple set of painting tools, including the option to paint through images, and you can even generate basic renders. You can also export. Performance The best thing about D Creature is its seamless performance. It makes sculpting natural and organic. Conclusion This is the one to beat. I use it daily to knock out ideas while commuting to work. Usability and functionality Forger looks like Maya, so it instantly feels familiar. Its interface is very slick, though several functions require you to use both hands, which takes time to get used to. You can also add additional objects and hide geometry, meaning you can create much more complex scenes. Performance This is where Forger crumbles. However, support is excellent: At the minute, the app simply does more than the iPad can handle. You do get the option to change the shader, though â€" a good thing, since the default is a horrible shiny green â€" and the option to export. The interface is intuitive enough, but the brush settings can be fiddly: Performance Performance is good. Free TrueSculpt is the most prominent sculpting app for Android. Usability and functionality The layout of the UI is similar to iDough, with the icons down the left side of the screen rather than along the bottom. All the standard features are present including a Mirror tool and basic painting tools. However, the interface is often unituitive â€" to sculpt into the mesh, you need to set strength to a negative value, for example â€" and the brushes come in a wheel menu, meaning you have to flick through them all each time you want to change brush: The navigation is clunky and the lag when painting is extremely annoying. I used it for a couple of days, then put it back in the box. This article originally appeared in 3D World issue - on sale now!

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4: forger, the digital sculpting & texturing app for iOS

Sculptris is a free digital sculpting tool, created by Pixologic, the company behind ZBrush. If you're new to the world of digital sculpting, Sculptris is the ideal ground on which to get started. If you're new to the world of digital sculpting, Sculptris is the ideal ground on which to get started.

Sculpting is a creative process of moulding suitable materials into a sculpture. Traditional Sculptors prefer using clay to sculpt as it is really easy to add, subtract and shape it during sculpting process. They create wire armatures to give the sculpture a balance and stability then start putting clay to add volume. Digital Sculpting uses modern technologies and programs to create sculptures. Unlike traditional sculpting, digital sculpting programs offer layer management to organize the sculpting information, therefore we can sculpt different textures and patterns over a single surface without erasing the previous one, and same goes with the texture painting. We have lots of software packages that offer high-end digital sculpting and painting tools which help artists to achieve amazingly real and high quality sculptures. Here are some best software programs that you can use to create your own digital sculptures. Pixologic Zbrush Pixologic Zbrush is a great digital sculpting and painting software widely used in game and film industry by many professionals. It has numerous amounts of features like Dynamesh to generate base mesh, ZRemesher for retopologizing, FiberMesh to create hair-fur stuff and much more which makes Zbrush a complete Professional tool for sculptors. Download here Autodesk Mudbox Autodesk Mudbox is another industry standard program with awesome sculpting and texture painting abilities. It comes with numerous amount of useful tools such as Layers for better organization of sculpt and paint data, Symmetrical retopologizing, advanced retopology toolset and UV-less painting. Download here Sculptris Sculptris is a free sculpting and painting tool created by Pixologic. It has very simple and clutter free user interface with two navigation methods Sculptris original navigation controls and Zbrush navigation controls that can be toggled any time. It has wide variety of tools like Automatic UV creation, Projection Painting, Dynamic Tessellation control which make sculpting process much easier. If you are new to sculpting then Sculptris is a great tool to start with. Download here 3d Coat 3d coat is next in the list with lots of awesome features including Auto-retopology Voxel Sculpting, UV mapping support, Ptex support. It supports 3dConnexion which helps user to easily navigate the model in 3d space and available in eight languages for Windows, Mac OS X and Linux platforms. Download here Geomagic Freeform Geomagic Freeform is a great sculpting program with the ability to perform wire cuts, loft and sweep operations. It has great tools for voxel, polygonal, SubD and NURBS modeling and can also measure mass properties like surface area, volume, piece density with piece-to-piece fit, intersections and thickness analysis. You can paint textures over your model and even render it with the Mental ray rendering engine inside this great tool.

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5: digital sculpting | The Gnomon Workshop

Digital sculpting, also known as sculpt modeling or 3D sculpting, is the use of software that offers tools to push, pull, smooth, grab, pinch or otherwise manipulate a digital object as if it were made of a real-life substance such as clay.

We select the best sculpting apps on the market to bring your imagination to life. Check out the shortlisted entries here. Among the highlights of the ZBrush Summit were a series of demos of the new hard-surface modelling tools in ZBrush 4R7 â€" yet another free update coming to version 4 later this year. So it seemed to us like a good time to review the current state of sculpting tools in general. Which apps are worth checking out right now? ZBrush rapidly evolved into a true 3D sculpting app, using polygons instead of pixols, and letting users either create objects from scratch or add fine details to meshes made in other programs. But since its introduction, a number of similar tools and technologies have joined it, and budding digital sculptors now have a wide variety of options at various price levels. It was released as a finished product in early and acquired by Autodesk later that same year. Mudbox takes a much more traditional approach to sculpting, looking and working much like any other 3D app, with familiar menus, palettes and layer systems. It has the same multi-resolution sculpting as ZBrush, and a fully-featured painting system. Like ZBrush and Mudbox, it features multi-resolution sculpting, with advanced symmetry options and comes with a range of brushes, stencils and stamps for adding fine details. The system also features mirroring and mesh projection, which transfers your high-res sculpted detail onto a low-res poly mesh for retopologising. The newly announced R16 update adds even more features with drawing along splines, poly selection masking and the use of procedural materials as stencils and masks. The system provides tools to sculpt meshes by a combination of manipulating mesh vertices and then using image-based vector displacement maps to create the fine details. The benefit of vector displacement is that it can create things like curved overhangs, rather than simple displacement along a polygon normal, and also keeps your geometry light. Modo gained multi-resolution sculpting, and the system has been refined over subsequent releases. Modo now features the ability to constrain brush strokes to splines that have been applied to the mesh, allowing for precisely repeated strokes with different brushes, or the regular application of small details. Like Cinema 4D, the sculpting system benefits from being part of the wider app, enabling you to hop in, make modifications to a model, and even see it rendered in the live preview. The sculpted shape is then turned into a surface ignoring the volume beneath and speeding up operations , where it then works much like any sculpting app. Because 3D Coat objects are made from triangles, the finished model needs to be retopologised to create a workable mesh, and the app provides some excellent automatic and manual retopologising tools. Not only that but the app also has a comprehensive UV mapping and a painting toolset which supports UV texturing, micro-vertex painting and Ptex UV-less texturing â€" all of which are useful for any CG modellers, not just 3D Coat users. Free Blender gained sculpting tools in version 2. The multi-resolution system works much like ZBrush and Mudbox, enabling you to make large-scale changes to the geometry, and then up-res the mesh to sculpt in the fine details. However the addition of dynamic topology in version 2. However it will generate a densely triangulated mesh, and so â€" depending on the output â€" you may then need to spend time retopologising it. Free An alternative to Blender is Sculptris. This small app was a hobby coding project developed by Tomas Petterson, but proved so impressive that it was picked up by Pixologic in , with Tomas joining the programming team. Sculptris connects with ZBrush via the GoZ bridge, and is great for those starting out. A regular contributor to 3D World, he edited the magazine for a period of two years.

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6: The top 7 sculpting apps for 3D artists | Creative Bloq

Another interesting option is the web-based digital sculpting application developed by Stephane Ginier called SculptGL. Stephane's ScupltGL tool allows any starving artist with a web connection to delve into organic design for 3D printing.

Image source What is 3D Digital Sculpting? This post may contain affiliate links. That means if you buy something we get a small commission at no extra cost to you learn more 3D sculpting also called digital sculpting is when an artist sculpts a 3D object on a computer with material similar to digitized clay. Software with brushes and tools that push, pull, pinch and smooth make it easy to create detailed sculpts that mimic real life textures and objects. There are multiple programs that allow artists to sculpt creations from either a base model or from scratch. They use complicated calculations to create detailed polygon meshes that act like real clay. An artist will begin with wide, broad manipulationsâ€”much like a traditional sculptorâ€”and then move onto more detailed work by increasing the polygon count. A digital sculptor can take anywhere from 30 minutes to hundreds of hours on a project. The time spent sculpting depends on the complexity of the project and skill of the artist. How Does Digital Sculpting Work? Much like sculpting with real clay, digital sculpting is a multi-layer process. Artists can start with a basic model completed in a 3D modeling application, or with a simple shape like a sphere. They start the process by using tools that manipulate the geometry of the sculpt. These tools can push, pull, and twist the geometry. You can even add on extra geometry if needed. The first layer will define basic features like the shape of a nose or curve of a tricep. This step is called blocking. Image source Once the artist is happy with the basic shape and silhouette they will subdivide the geometry to add more detail. Digital sculpting uses a lot of computer resources and requires significant processing power. With each subdivision the project will get slower and slower as the processing needs compound. This is why the blocking process working layer-by-layer is crucial. Continuing with the following subdivision layers, a digital sculptor will then add more and more details over time. In this step small imperfections like scars or pimples can be added to characters that make the 3D sculpt look more realistic. On the last subdivisionâ€”the layer with the most detailâ€”the artist will add minor texture detail like pores. Much like a clay sculptor will use material such as dried leaves or cotton scraps to create texture. A digital sculptor can customize the texture of the brush they are using to suit their needs. These fine textures are used to create detailed, realistic surfaces that add to the realism of the final sculpt. Applications of Digital Sculpting Digital sculpts are used in films and TV shows that rely heavily on visual effects or 3D animation. A digital sculptor is needed at various points in the creative process too. In the conception phase a sculptor reworks concept drawings into 3D sculpts. This helps the director get a sense of the character and make changes before locking down a look and feel. Once the concept is finalized a digital sculptor will be given a model to detail. This step is vital in creating realistic 3D environments and characters. The sculpt texture will be applied to the final model and rendered for a realistic result. This is one factor in making digital creatures look real. Sculpting is also used in high end game design. Image source Most game objects need to be optimized to have the least polygons possible to reduce the total size of the game through compression. By using a texture map from a digital sculpt, game designers can keep the polygon count low while cramming in as much detail as possible. You create and manipulate an object using polygons quadrangles or triangles. These are mathematical calculations inside the program. You cannot shape models organically like this. Instead you use shapes, lines, and vector points to create a 3D model. Modeling is geometric in nature and is perfect for creating an angled object, like a chair. Because you are in deliberate control of each polygon the mesh maintains its integrity and there are no extra steps needed to topologize it. By using brush-like tools a sculptor can manipulate the polygonal mesh of any object. The tools are soft in nature for softer work. And although making hard, angled objects like a chair is not impossible, it takes far more time than modeling. Image source Sculpting allows the artist to reach incredible levels of detail in the texture of the subject. Because the mesh is complex, sculpts need a retopologization before use in another program. If the creation is being used for animation it will be modeled first. The model will be sent to a sculptor for detailing while an animator then animates using a basic, low-res model. At the end of this process the sculpt will be layered over the animation and rendered. This achieves the

final look with the least amount of computing power. Because of its intuitive toolset and easy integration with the 3D software it is a favorite across the 3D industry. Mudbox is a close competitor and is more popular with beginners. The learning curve is gentler than ZBrush but it does not offer the same brushes and toolset. The company behind ZBrush created a free sculpting program called Sculptris. But there are plenty of choices to pick from. Much like a traditional sculptor, a skilled digital sculptor can use brush-based tools to manipulate digital geometry basically fake clay that mimics organic structures. Any good sculpting program will let you do that. Claire Heginbotham Claire is a traveling creative living in Osaka, Japan. She spends her days writing things, learning things and eating ungodly amounts of sushi. Read about her adventures here or secretly stalk her on Instagram and Twitter.

7: 5 Best Software Programs for Digital Sculpting

SculptGL is a small sculpting application powered by JavaScript and webGL.

8: Digital Sculpting: The Human Anatomy | The Gnomon Workshop

While digital sculpting would seem a difficult task to transfer to mobile, there are a number of excellent apps available, for both iOS and Android devices. In some cases, the move to tablet even clarifies what a particular product is useful for, shorn of all the bells and whistles of the developer's desktop products.

9: SculptGL - A WebGL sculpting app

Sculptris is a free digital sculpting/3D modeling program that is both powerful and extremely easy to use. It provides a digital modeling experience that is very similar to creating real life models out of clay, whereupon the virtual clay simply materializes from thin air and can be quickly shaped, prodded, cut, modified, and added.

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