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 This project will create opportunities in which animators, both old and new, can use animation from other models and integrate it onto their own work. After creating a model, many animators can struggle to find innovative and interesting ways for their creations to do simple tasks, such as walk, run, sit or even throw a ball. This project will facilitate this process by suggesting motions based off of the minds of many experienced animators and allowing the user to adopt their methods. After that, the user can integrate these difficult motions onto their models, making animation faster. Keyframing, polygon meshes, and skeletal mimicking will be the main focus of the work. Auto-Complete for Animators would be the name of the subtopic.

This Small Business Innovation Research Phase I project will have many hurdles that it will need to bypass in order for it to work. The research and development team will have to find great examples of animation for very different activities. Many different ways and styles of simple movement will be documented. These motions will be categorized and studied carefully. The researcher(s) will have to figure out what works best and what falls short. The team will also have to split these movements up into joints. For example, if the user finds the arm movement of one model to his liking, while using the leg movements of another, the program would have to find the easiest ways to help them do those tasks. The team will need to figure out the simplest method to mimic the motions of one model and translate it to another. Many ideas have been suggested, such as using pivot points and connecting them to the correct area of the model. The most difficult aspect of the project would be having the program recognize what kinds of movements the animators are making, and sorting out the list of suggested motions into a useful ranking. This will include strenuous research to correlate how an animator begins working on a motion to the type of motion he is creating. The program should recognize what the use is doing and give him a list of suggestions that are relevant to his work. For example, if the program can recognize that the animator is trying to make his character walk, it should suggest a list of walking animations that he could use.

This project will create a great impact onto the world of animation. Not only would it help introduce this field to new potential animators, it will decrease the time it take for a person to create such movement. New animators can begin working with the motions of more experienced members in this study, and can use those techniques to further enhance their own. On the other hand, animation studios can utilize this project to create stories faster and smoother than before.

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 This product will greatly enhance your skills in animation. Any beginning animators interested in utilizing this tool will not only see an entire library of motions created and shared by some of the most experienced animators, but will also be able to use them in their own models. An animator can simply use this tool to implement many motions, such as running, sitting, or idle, onto their own models and watch as they move around in an expertise manner. In addition, experienced animators trying to find ways to speed up their animation process can also use this tool. The animation process requires copious amounts of research, rigging, and keyframing. This tool will essentially help the animators cut out the middleman and allow the model to be animated without too much stress.

 The key differentiator between my product and all of the other animation products out there is that this one contains a library of preset motions and animations. Other products will have to rely on either manually animating their model, or motion capture in order to achieve their goals. Whenever an animator creates and animates a model on most of the other products, just one mistake could mess up their entire animation. This could cause massive losses in time, money, and increase the amount of work needed on the project. The customers of our product can simply replace their animation with a different one, instead of reanimating the entire project, creating a much more efficient order of operations. In addition, a customer can work on each part of the model separately, starting out be animating the arms and head and their way down. This creates very clean animations and also eases the animation process. An animator can also utilize trial and error with this product much easier, testing different arm motions with different leg motions, and seeing which ones would work the best. Other products almost force the animator to animate the entire model at once which will again heavily impact the amount of time loss if any mistake would be made.

 This project will focus more on the motion aspect of the animation process, rather than the modeling. The library of preset motions that comes with this product will be tremendously useful to any customer. People that are beginning to animate will use this library to learn about all sorts of techniques created and shared by experienced animators. Not only would this library help introduce them into the world of motion and animating strategies, they could utilize it as a stepping stone to their animation career, creating their own unique set of motions with the influence of the library. Many experienced animators will also find this library useful. An animator can store preset animations onto this library, and share use it again on a different character if the model needs to be changed. They can also mix and match animations and characters, which would ultimately lead to a better animation for their project.

 My product will be primarily marketed to 3D animators, both experienced and inexperienced. Many 3D animators will have to be forced to use overly expensive software to create their products. For example, 3DS Max costs upwards or one thousand dollars. My product will be significantly cheaper, as well as serve as a gateway product for beginner animators. When an individual becomes intrigued in learning a field, especially in the world of digital art, they would rather not choose to spend an excessive amount of money just to later decide that the field is not for them. One would not spend thousands on a piano just to not learn it. The economic benefits of my program acts as a safe first choice for beginning animators. They can later move up to other programs that are more expensive as they progress into this field.

 This product will prove extremely beneficial to two different types of customers, animators who are experienced but do not have enough time in their hands to carefully position every aspect of an animation, or beginners who would like to try out a economically safe animation tool before jumping into more advanced software. Our business will try as hard as possible to make this product appeal to these types of people. We will be utilizing the fact that this product is very cheap and it allows animators to cheat by skipping through difficult processes such as motion capture and others. We would need to emphasize the strong aspects of our product in an honest way in order to not only gain the interest of many people, but to maintain a healthy relationship with our consumers. Our product’s most powerful properties are its simplicity and its beginner friendliness, so our commercials and advertisements will place a heavy emphasis on these.

 Currently, our main competitions are the other expensive software, Maya and 3DS Max. They both offer a 30 day free trial period, so my product will have to be able to afford to have that as well. In addition, we will be facing competition with Blender, a freeware. We will have to emphasize our strong aspects mentioned in the previous paragraph to win over the customers that would otherwise choose blender. Because of a two semester production schedule, we cannot deny that our product will not be ahead technologically compared to our competition, but we can at least guarantee that our product will offer utility that others will not. By the time the product is released, I do not expect other animation products to rise up to the monsters that are our top three competitors, so competition will not be altered too much.

 One of the biggest risks that we would have to consider when pushing our product into the world is that we are offering it to a very niche audience, and our competition is already strong as it is. While animation is a very important job, especially in current times where companies need animators more than ever, it is a very difficult field to be interested in. Animation is a field that takes a lot of time, dedication, patience, and reworking ideas, therefore, it might not be the most ideal profession for just anybody. A way to overcome this risk is to proclaim the ease of use of our product. We would have to make animation appeal to a bigger audience, perhaps utilizing nostalgia and childhood memories to attract a decently sized audience. We may need to make the progress seem easier than it actually is. We can also sell our product as a tutorial or a beginners guide to animation, allowing customers that have the slightest interest in the digital media world to consider our product. Also, our product should also demonstrate ways to make it seem both beginner and intermediate friendly, by offering suggestions of next steps into our advertisements.

 Finally, we can work with our competitors, who may be facing the same problem selling their product that we are. Other animation software face the problem that animation is a difficult field to get into, and there are no reasonable tutorials online that would get users into this product. By selling our product as a tutorial, they would also be able to consider purchasing these advanced products. Working with our competitors to create an animation friendly environment and allowing the best of both worlds would be optimal. It would also reduce competition and make selling animation software a team effort. Our product can be the hook, and theirs could be the main course. In addition, customers can also serve as advertisements. They can suggest their friends and acquaintances to try our product if they would like to get in the field.

 A social impact that we are trying to address with our product is to create a more beginner friendly animation product and allowing more people than ever to enter the world of animation. More animators would mean more animations and larger competition for other companies. Currently, Disney owns a large Monopoly on a lot of animations and characters, which pushes out other companies of this task. Allowing for more animators would allow other companies to step up and perhaps come close to the monster that is Disney and Pixar. Companies can also use animation in their commercials. Having more animators into the world would allow commercials to feature more animations, and this would cause a ripple effect making more companies desire animators, opening up more job opportunities in this field. The commercials would be able to attract diverse audiences and would also serve as advertisement. M If this product is used widely, we can see an increase in interest in this beautiful field.

 There are no foreseeable environmental or health issues associated with our product. Children are an interesting demographic, however. Because of our beginner friendliness, for the first time in history, children might be able to follow the footsteps of their heroes in animation media and learn this field as well. This would also cause an increase in the number of animators into the world. There would be little to no need new regulations, since animation has never hurt anyone, only controversial topics, so the current regulations in animation would work just fine. Because of this, it would not be put in bad use either.

 Our product will open doors to potential animators, and create a global phenomenon in this digital world.