Solar System Simulator—Maintenance Plan

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We made the Solar System Simulator on the notion that we ourselves would not have to continue to spend money of our own. From the start, our product and our company was meant to be consumed or bought out by another, bigger company where they use our simulator as a base to expand upon it; for example, Google Solar System, kind of similar to Google Earth but obviously on a bigger scale. The current plan is to get bought out fairly quickly and gain as much traction as possible fairly quickly as well (see deployment plan); however, there is still a chance where this plan does not work out and we have to continue to run our product by ourselves for the next year. To continue to run the product on our own, we have to first look at how much the server and the domain will continue to cost us, not only that, continue to find a way to market our product as well. This is assuming next year meaning the upcoming 12 months, thus December 2019 to December 2020 worth of maintenance.

In our development plan, we already outline what one month of spending will look like, and how it will take one month to fully deploy our product into the market. In that plan, we show how were going to market the product locally and how international. If that is not enough to get the attention of companies to get bought out, we are going to use the feedback we get from the marketing that we have done and the consumers that have interacted with the product so we can make Solar System Simulator (SSS) even better. Based on those feedbacks, we will implement those changes, but regardless of the feedback, we will continue to add features that we couldn’t earlier into the program due to limited time. Now that we have a full year to work on our project, one the things added would be a black hole simulator as well. The black hole simulator will be a simulator within the Solar System Simulator where a user will be able to see how a black hole would interact with our solar system. We will implement this using accurate physics, or as accurate as possible due to the fact that the physics behind a black hole is extremely grey in the first place. Another thing we would end up adding is different moons for each planet. This can and will take up a lot of space so we will have to adjust the overall size of the simulator alongside the addition of moons. Another for sure thing we will end up adding is the asteroid belt that is roaring between the orbits of Jupiter and Mars. This will be interactable as well. Lastly, we will add different variety of music that caters to a bigger audience as well. Hopefully these additions, with the additions from the feedback, are enough to make the product more enticing. All these additions will be made by the same members who made the original product and they will continue to do this on their own, voluntarily time. Because of this, there won’t be any extra costs added onto to the total due to these new features.

While adding all these features, other maintenances have to continue to happen as well. One of those major things being keeping the server alive. While in the deployment plan, we stated that we weren’t going to go past three months on the server because our hope was to be bought out, but since that didn’t happen, we are forced to keep the server alive for a full year. The server will now be operational for 14 months, because it has already been operational for 2 months. The server was initially bought from digitalocean.com and we will continue to keep paying the monthly, flat fee of $5. That means the total comes out to be $70 for a year and two months’ of having the server.

Now that we have a server locked down till December of 2020, we need a domain where we can access all this information on the web. When we bought the domain, we bought it for a year, and it expires in December 2020. Because of this, the cost of the domain will stay the same and not increase because the domain name will be in our control. We bought the domain from Google Domains for a flat fee of $12, and we at the moment have no reason to renew that domain name once it expires because the overall goal still has not changed for us. The goal still is to gain traction, again, and get bought out, again. However, if things once again do not go as planned, we will once again regroup and figure out what to do next with the domain and the server.

Now that the server and the domain are locked down, and we have ensured the product is stable, we once again have to market it and gain traction. It was because of the marketing stategy we were able to get a lot of feedback and were able to improve our product even more. Now, we are going to relaunch our product and market it as new and brand you. The process behind the marketing is going to be similar to the one done during December 2019. Marketing on social media (Facebook) and of Google is the perfect way to get clicks onto our website and gain a lot of attention, as it did for us the first time. Once attention is generated, this increases our chances to be bought out by a bigger company.

At first in December 2019, we invested about $1,000 into Google Ads and it proved to be really helpful as it got us a lot of feedback and clicks. We are going to spend another $1,000 in Google Ads to once again get our product out there to the public, and while doing so, hoping to be bought out. This $1,000 will only be for one month, just like last time. While we will welcome more feedback, this time we are really pushing for a home run play. The ultimate home run would be Google Earth and setting up ads through Google Ads helps with connect us with them as well. Not only that, KU has an amazing and an established relationship with the people at Google Earth, which we will take full advantage of once again and present to them how expanding Google Earth to Google Solar System is a good idea and how it can give an understanding of the solar system to the regular public even more. Not only that, our simulator is very interactive and user friendly, making it very unique and a great base to expand upon while making Google Solar System. Furthermore, none of Google’s competitors have anything even close to a simulation of a solar system, so they would get a huge jump on them, and with our base their work would become easier as well.

Not just Google Ads, we are also going to be investing another $1,000 in Facebook ads. Billions of people are on Facebook, and it is very well documented that a lot people on Facebook interact with these ads as they have been in a lot of controversy over it. Last time, we invested about a $1,000 and that was to be the main source of feedback from regular consumers. Facebook guarantees a lot of clicks and maybe we get lucky and hit a home run through it. Even if its not a home run, Facebook will get us some feedback that’ll help us improve our product even more. Not only that, Facebook also owns Instagram, so investing in ads within Facebook means we can populate Instagram as well, meaning two major social media platforms are covered.

Due to investing in Facebook ads and Google Ads for two, different months, the total cost of marketing becomes $4,000 a year. With the domain and the server combined with marketing, the total cost for management is $4,082. See figure 1 and 2 for further details.

The only thing now left for maintenance is the legal work that comes along with creating and owning a product. During development, we made sure before marketing the idea that no one was going to be able to steal our intellectual property, or the name Solar System Simulator (SSS). We ended up applying for and purchasing a patent, which makes sure no one steals our idea or product. If they want to expand upon or use our product, they have to buy us out for some price. The cost of the patent ended up being $900, as we applied for it ourselves. Not only that, we didn’t want anyone stealing the name of our product either, so we ended up applying and paying for a copyright, which cost $35 flat. The patent will alive and well and under our control for 20 years, so we don’t have to add on additional charges when it comes to that. Moreover, when it comes to the copyright, it stays on and under our control for 70 years. Thus, we do not have to add more charges because of that as well. Look at figure 1 and 2 for the official total cost breakdown.

**Figure 2**

**Figure 1**

In conclusion, it will take about $5,017 to keep maintenance on our product. Most of the costs come from marketing, which is the driving factor of our product. Our product by itself cannot make any money, so it has to be marketed and hopefully finds its way onto a tech giant that is interested on expanding upon the solar system simulator. Out main goal is to pitch this to Google and hopefully help create Google Solar System, but we are open to be bought out by any that will do justice by our product. Next most money comes from the legal side things. Getting a patent and a copyright is not cheap, but they both have long term value; thus, it doesn’t have to be renewed at all and is at the moment just going to be a one-time fee that we have to make. The third biggest cost ends up being the server. The server has a monthly cost of $5 flat, and we are going to need that serve for at least 14 months, at least for now. Because of this, the cost ends up being $70 for that. Lastly, the domain cost us $12, but it expires in December 2020, so we do not need to renew this to keep maintenance for a year. Lastly, refer to the works cited document to see where all the monetary information is coming from.