## **Maintenance Plan**

Now that Hawk Cloud is running as an actual service, we need to take steps to ensure that it keeps running as a sustainable business model. Keeping our product maintained and running for a year involves a myriad of costs. First, we need to keep the service accessible to users. In order to do this we need to pay for a domain name and either pay for server space from another company or host servers ourselves. Next, we will need to hire people to maintain the website and deal with customers. These hires include developers and designers as well as customer service and IT specialists. There are also costs to be considered with expanding the product to other platforms. To cover these costs, we will need to raise revenue by having consumers pay for our product and displaying advertisements on our website.

To maintain our document cloud service we would need to make monthly payments on a domain name. We can find free domain names through certain sites like web.com, or get a .tl free domain, but this looks very tacky. To appear more professional, we must use a more expensive domain name, probably .com, through a site like godaddy.com, which costs about \$11.99 a year [1].

We will also need to upgrade our servers and pay monthly installments to keep those servers. Cloud9 can cost between \$20 and \$30 per month, possibly more depending on the storage we require [2]. Upgrading through this site would also get us email servers to be able to send out activation emails and receive emails from the "Contact Us" section. The site vultr.com also offers cloud storage [3]. We could start out with the \$20 a month plan offering 45 GB SSD, 2048 MB of RAM, 3000 GB of bandwidth, and 2 CPUs. Once we increase the number of our customers (or our customers ask for more storage), we can expand our storage to 600 GB SSD,

32768 MB of RAM, 10000 GB of bandwidth, and 16 CPUs for \$320 a month. If we require more space, we can contact their company to get it, and the pricing deals should get better as that increases. There are also other web hosting options such as Amazon Web Services. AWS charges by usage depending on how much you store on their servers, how many requests the servers receive, and how much data is transferred [14]. They also offer a discount if you pay upfront. Amazon S3 also offers a free tier which gives you 5 GB storage, 20,000 get requests, 2,000 put requests and 15 GB data transfer per month for a year. Additional usage up to a TB/ month is \$0.0300 per GB [15].

Other options could include buying servers/storage permanently to bring down the cost over the long run should we see the company will prosper. This requires some IT consultation like InvisionKC to properly install and get them up and running [4]. This would probably cost a few thousand dollars to perform. Else, we could do it ourselves by looking into installing Windows Server on computers with big hard drives. This would cost between \$900 and \$6000 depending on the plan [5]. Though in the long run it might be more cost effective to host our own servers, at this point it would probably make the most financial sense to use a third party service for hosting. If we don't have a lot of traffic to our website, there are free options for hosting that could work for us.

The five of us could stay on with the company to keep it going and growing. However, we still need to look into hiring programmers and developers to improve our site. They would keep the looks modern and add new features to our plans and fix bugs. They may also look into adding more usable platforms like OSX and mobile devices. This would take extra time and research, for which we would need to pay. The average programmer receives an annual salary of

about \$74,000 and a developer \$93,000 [6]. We'll probably have to pay them at least average to get really good talent to join our team. We could probably survive by only hiring ourselves to start out. Expansion into other platforms can occur if the demand is there and if we have the money to cover it.

Our company will also hire IT and customer service representatives to assist clientele with any problems that may arise. We know that servers will go down for some period of time and we need those to get back up and working as soon as possible so as not to hurt our reputation with our valuable customers. IT workers can earn \$65,000 - \$75,000 per year [7]. We will also need representatives to answer clients everyday questions through email and eventually through phone. We do not want to miss out on losing a potential enterprise paying for our services. We can limit these hires to one IT specialist and one customer service representative at first then hire more as the company grows.

To keep up with current technologies and not fall behind, we should also look into other platforms to expand into. This would include possibly developing android and iOS apps. Google Play apps require only a one time fee of \$25. Ones on Apple's app store cost a much heavier \$99 per year [8], so they may need to be looked at farther down the road. Also the cost for mobile apps can be around \$100,000 or even up to \$450,000 depending on who develops it [9]. So, we would have to look into the demand to see if it's worth implementing. We could also see if it is possible to develop these apps in house. If any of the developers knew how to develop for Android or iOS (or were willing to learn), we could see if it were viable to have them focus on developing the apps instead of maintaining or adding new features to the website. This would drive the cost down and we wouldn't have to worry about hiring any new people to make the

apps. We could also consider making users pay for the apps which could cover the App Store costs.

To provide a reason for creating all of these features and employees, we need to actually attract customers to our company. We should definitely provide free trials to get customers to actually try out our product without risk. We also need our prices to start out low, just so we can cover maintenance costs with the revenue. There could even be a free beginners storage option. This will make our customers happy so they will recommend us to others and increase our clientele. We should increase visibility and awareness to others through advertising and networking. We can contact as many people as we know to try, or at least get the word out about our product. We can also advertise through Google's AdSense, in which we bid to advertise on certain sites [10]. We should focus on tech-savvy sites, ones that relate to the type of customers we are trying to appeal to, but other generally popular sites, such as facebook and twitter, will work. It will probably cost a good amount, but you only really pay per click on your advertisement, so the investment is well worth it. If our product works well enough, we can even basically get free advertising through popular tech sites that would rate our product.

Next, we need to provide a valuable source of revenue to pay for all of the costs of our product. This can be done through a non-obtrusive ads. Once again, Google's AdSense is great. It doesn't really cost you anything. We can get paid per click, and Google will only take two thirds of the revenue. People on average can receive up to \$48 per 1000 visits to their websites [11]. Other dirty tricks that we will avoid since they hurt our reputation, include selling our users' emails to advertisers that could also try to scam them.

Advertising alone will not cover maintenance and server costs. We need to provide pricing plans for different storage options and access to features. They will be similar to competitors like OneDrive and Dropbox, but our plans will be cheaper to provide yet another reason to use our service. OneDrive provides 50 GB for \$1.99 a month and 1 TB for \$6.99 a month [12]. That is probably too low of a price to compete with considering the cost of our servers. Dropbox costs \$15 a month for it's basically unlimited plan [13]. We could maybe have users pay around \$15 for 50 GB a month. The prices would of course change depending on the price of our servers and the numbers of customers we have.

Maintaining a website like Hawk Cloud for a year as a business would be very difficult. Just trying to cover the maintenance costs and paying ourselves from ad revenue and premium user options might be tricky. Salaries are the biggest subset of costs and could possibly be reduced. However, this could be unwise, as it may deflect otherwise interested and talented developers from working for us. Running Hawk Cloud as a business for a year could be done, but we would have to attract a lot of users to our service. To do this, it would have to be better and cheaper than the already established market competitors. We definitely need to attract users to our product, as without them, we won't be able to make any revenue off of it.

Hawk Cloud could easily be run for a year as hobby, however. Then we would not have to worry about salaries or attracting users to our service. We would just have to pay for the domain name and the web hosting.

It is very viable to keep Hawk Cloud running in some form, at least. It could possibly be run as business for at least a year. This would involve a lot of hard work, but it could be worthwhile if it became a thriving website in the end.

## References:

- [1] <a href="https://www.godaddy.com/">https://www.godaddy.com/</a>
- [2] <a href="https://c9.io/pricing/webide">https://c9.io/pricing/webide</a>
- [3] https://www.vultr.com/pricing/
- [4] <a href="https://www.invisionkc.com/">https://www.invisionkc.com/</a>
- [5] <a href="https://www.microsoft.com/en-us/server-cloud/products/windows-server-2016/#MenuItem4">https://www.microsoft.com/en-us/server-cloud/products/windows-server-2016/#MenuItem4</a>
- [6]https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=programmer%20salary
- [7]http://www.payscale.com/research/US/Industry=Information\_Technology\_(IT)\_Services/Salary
- [8]http://www.techrepublic.com/blog/software-engineer/app-store-fees-percentages-and-payouts-what-developers-need-to-know/
- [9]http://www.formotus.com/14018/blog-mobility/figuring-the-costs-of-custom-mobile-business
  -app-development
- [10] <a href="https://www.google.com/adsense/start/#?modal">https://www.google.com/adsense/start/#?modal</a> active=none
- [11] <a href="http://webgilde.com/en/how-much-does-adsense-pay/">http://webgilde.com/en/how-much-does-adsense-pay/</a>
- [12] https://onedrive.live.com/about/en-us/plans/
- [13] <a href="https://www.dropbox.com/business/pricing">https://www.dropbox.com/business/pricing</a>
- [14] https://d0.awsstatic.com/whitepapers/aws\_pricing\_overview.pdf
- [15] <a href="http://aws.amazon.com/s3/pricing/">http://aws.amazon.com/s3/pricing/</a>