

Project Hosting Research

In our project we have used tus, which “is a protocol based on HTTP for *resumable file uploads*.”. Our etherpad implementation relies primarily on tusd, the official reference implementation of this protocol, and it is compatible with any S3 compatible storage system. This means that in order to narrow down a cloud service provider to host our project, we must figure out what might work with the drawing tool, as well as the workspace implementation for our project. We had initially thought about using firebase, but we aren’t sure now if that would work for our purposes. Therefore, this is some basic research into the various cloud hosting services out there.

We need to be looking for a hosting service that will:

- Play nicely with our project’s individual components as well as the overarching project
- Quick and easy upload and use
- Inexpensive or has a free tier or a free trial
- Has NA servers

All of the following services tick all the boxes above, but in order to see if they work in the long run, we will have to try and test each one to see if they fit our needs.

The cloud hosting services that I considered were AWS, GCP, Azure and Heroku.

AWS:

AWS is one of the biggest players in the sphere for a reason. They have super fast and efficient services, with a really nice pay as you go model. They also have a wide variety of features and resources that could be useful for our needs, especially when it comes to cloud storage and content distribution like Amazon S3 or Cloudfront.

AWS has a free tier, in which people using the service at the free tier can access all Amazon Web Services free for a year, as long as the usage is kept below a certain threshold. We might need to be careful if we go with AWS, mainly because a lot of people are shocked when they get billed for usage even though services were stopped, and if we aren’t careful we could run up charges quickly.

GCP:

Google Cloud Platform is also a great contender for this. While they don’t have as many tools as AWS, they do have similar speeds and storage, and they also have a free tier. In fact, GCP’s free tier might be better because as students we can sign up for a free

trial that will get us 300 dollars worth of credit. I have also used GCP in previous classes and the setup was not so bad in comparison to AWS. One major drawback is that you need a credit card to sign up, and if we aren't careful, we could end up with unnecessary fees.

Azure:

Microsoft's offering also has some great tools and services, and they even give 100 dollar credit when signing up as a student. We can also sign up without a credit card, and there is no worry about overage fees as a result. When the credit is used up or we have exceeded our limits the account will just be disabled, which is definitely a lot better than AWS or GCP. I'm not sure how easy it will be to integrate it with our project, but it seems to be an outstanding option as well.

Heroku:

Heroku is a container based cloud hosting service that can get us off the ground in no time, focusing on getting code deployment out there as soon as possible. Unlike the other web services above, which are somewhat complicated in getting started, we could potentially get hosting sooner, especially since that provides a ready to use environment to get started with.

We can also get some great benefits as students with the github student developer pack. This allows us to get one container for 2 years for free. The only drawback is that it uses a credit card for records.

This seems like a great option for us as it is small, lightweight and easier to use than the other services. It is also catered towards smaller projects and businesses, which is great because we really don't need a lot of the overhead currently. However, if we need to scale in the future, we might have to switch over to another service.

Based on all the options and the way each company presents their services, I'd say that Heroku is the best bet for our project, primarily because of the ease of use and quick entry into the service vs the other companies.