



Platform Selection

Platform Components

The development platform is the collection of technologies, packages, methods, tools, etc. that you will need to assemble and/or use to make your working software product.

What programming languages are used? What front end technologies? JavaScript and HTML augmentation frameworks like Angular, Vue.js, or React/React-native? System will be a web app?

What back end technologies are you using? What database components? Is it assembled from node.js, express, SQL, MongoDB, etc? Are you using a PaaS (Platform as a Service) like Heroku, Google app engine, Cloud Foundry, Firebase, Docker, Kubernetes, etc.? Are you graphing/charting data? With what packages?

Are you processing images or video? With what packages? Any specific hardware or OS being developed for?

We'll be using [the potree library](#) with HTML, CSS and JavaScript for the front-end. It is assembled from node.js and the three.js library. We're processing 3d models with point cloud data(for example. in .las format) and rendering them on a website. Data is parsed and reformatted as necessary with [the laspy Python library](#).

We'll use Apache/XAMPP for web hosting.

Documentation

The process will be done in two phases: first simply produce a list of alternatives, and then make the selection. The reason for the two-step process is to assure that you are considering the broadest alternatives.

The selection documentation should include all alternatives that were studied and its pros and cons. Also include links to any online information that you used in making the decision, including reference material and reviews or commentaries. There should be a clear enough discussion of the decision that you can reconstruct the decision two months from now. This will become part of your design document.

Technology	Pros	Cons
Potree (current solution)	1. Can use prior work as template 2. Built in annotations 3. Attractive features for user tour	1. Requires conversion of files 2. Currently renders wrong
Sketchfab (embed to webpage)	1. Currently renders correctly 2. Project is currently in Sketchfab	1. Client would prefer that it is not on Sketchfab 2. No first person on floor option 3. Ugly

Unity	1. Advanced functionalities with detailed UI	1. Too complicated 2. Doesn't have a lot of examples that look like our final product
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Source:

https://www.geosociety.org/GSA/Publications/GSA_Today/GSA/GSAToday/science/G425A/article.aspx

Client requirements

Some teams may have requirements from the client that limit, or restrict, platform component choices. In this case, your write-up will indicate that you were constrained by the client and indicate where those constraints dictated or influences your choice(s).

The client mentioned wanting to move away from sketchfab for hosting the 3d models.

Website will be developed desktop-first, but needs to consider adapting to mobile-friendly version at a later stage.