

## ABSTRACT

Goldstream Engineering constructs different types of structures all over interior Alaska. Based in Fairbanks, they must keep a record of all of the site visits that they do to make sure everything is going according to plan. My app, built using React, takes all the information they need and creates a downloadable file for them to save to their records. It was a big learning experience working with a client instead of a professor on this project.

## INTRODUCTION

Goldstream is a civil, environmental, and structural engineering firm. They work on projects that range from simple septic tank design to renovating remote structures to building bridges and roads. They develop the plans and all the details, then supervise the construction crew as they build it. While these projects are taking place, they perform site visits. A site visit is a task performed by one of the engineers periodically throughout a project to go and verify that the construction is going as designed and on schedule. They want a better app to help organize all the information about the different site visits they conduct.

## DATA AND ANALYSIS

My job was to try and develop a more personal and specialized app for them to be able to record the site conditions. I am using React to build the application. There are three main objectives that the app needed to reach for the app to be useful:

- It has to work offline.
- It must be able to keep track of the site conditions.
- It must be in a form that can be shared or stored for future reference.



I accomplished the first objective by registering the service worker which is a script run by the browser to enable it to run offline. When the page is refreshed or you are transitioning from online to offline, local storage enabled the ability to save inputted data. I used a Blob object that represents a file-like object that contains raw immutable data. This is used to take the input and generate a text file that can then be downloaded and shared as needed.

## CONCLUSION

It has been a great learning experience, learning about the project and figuring out how I would put it together all while working with a client. Overall, I believe that I was effectively able to accomplish the minimum requirements that Goldstream needs. From working offline to generating the file for future use, I will give them the ability to properly record the conditions of the project sites.

## SUMMARY

Goldstream Engineering Inc., in Fairbanks, Alaska, wanted an app that could help record the site conditions for the multiple projects they work on. Using the programming skills that I have learned during my time here, I was able to produce a functioning app that generates a text file with all the information that they require. This React app works offline, keeps track of site conditions, and saves inputted data even in remote Alaska where some of their projects take place.

## REFERENCES

- <https://stackoverflow.com>
- <https://reactjs.org/>
- <http://localhost:3000/>