NDSU Microsoft Capstone 2020 Web App

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**Overview**

The goal of the Microsoft capstone was to create a web app that could host analytics for NDSU’s FarmBeats kits. To do this we created a Web App, PowerBI reports, and a Web API. This documentation will give you some insights into the current web application that makes use of the Power BI reports that were created for the capstone project. The web app mainly makes use of two HTML files, index.html and coordinates.html, which use both basic Bootstrap and JQuery.

**Index.html** Index.html contains the default webpage for the web application. On this page, the Power BI reports are embedded into an <iframe> via an embed link. This method requires the owner of the Power BI report to authorize users to access it (the user must login to view the embedded report). If the owner has a Power BI Pro account, you can set it up so users request tokens and do not have to login to view the report. The Power BI reports have a specific layout on mobile devices which worked correctly, however, we were unable to test the appearance of embedded reports in the web application on mobile as we did not get the app hosted in time. Another thing to note is that on the web application, you may want a user to login. Once logged in, that user would then only be able to view farms which they are assigned to. This will help prevent leaks/breaches of data and would be necessary in further development.

**Coordinates.html** Coordinates.html contains a simple form which would be used to set a sensor’s coordinates. The FarmBeats ground sensors do not currently have GPS functionality, so the location data needs to be set manually for each sensor kit. The form asks for/requires current latitude, longitude, and the name of the sensor to update. Ideally, the data from the forum would hit the API via JQuery/Ajax and update the location in Azure, but due to delays we were unable to get our Web API hosted in time. Alternatively, there is a possibility that the geolocation API could be used to get the current coordinates of a browser, however there were various possible security issues that we did not have the time to iron out. If it were to work, this method would be extremely convenient and ideal to use for updating the coordinates.