CMPS 451 PA2.1 Project Report

Team: DK Crew

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The three channels assigned to us are ‘F8,’ ‘F4,’ and ‘Fz.’ With a sampling rate of 999.9910818134528—or around 1000—Hz, we found that there were 177 total recorded signals in each channel with the timestamps ranging from 88017.12626328597 to 88017.30226485559 microseconds (μs). By graphing the signals—recorded in microvolts (μV)—relative to their respective timestamps, we can see patterns in the shape the signals make. For instance, we can see peaks in activity as well as the frequency of the signals. From the graphs we can determine that ‘F8’ has a max of around -6315 μV and a min of around -6440 μV, ‘F4’ has a max of around -750 μV and a min of around -895 μV, and ‘Fz’ has a max of around -1913 μV and a min of around -2980 μV. Additionally, we can see that ‘F8’ has a mean of around -6380 μV, ‘F4’ has a mean of around -825 μV, and ‘Fz’ has a mean of around -2943 μV. We can also see that ‘Fz’ looks to stay relatively consistent, ‘F4’ peaks fairly frequently and ‘F8’ varies greatly. The plots for all three data streams can be seen below.

A screenshot of a graph

Description automatically generated

Figure 1: Signals in μV of channels 'F8', 'F4', and 'Fz' relative to the timestamps in μs.